CA1
DTR290-
92
A32

492675

41.D

TP 11399E

AIRSPACE DESIGN SYSTEM PROTOTYPE

PHASE II DEV[illegible]MENT PROJECT

Prepared for

Transportation Development Centre
Policy and Coordination
Transport Canada

by

B.F.W. Schoor
Virtual Prototypes Inc.

June 1992

DDN 492511

93-01470/

The contents of this report reflect the views of Virtual Prototypes Inc. and not necessarily the official view or opinions of the Transportation Development Centre of Transport Canada.

(c) Copyright, Virtual Prototypes Inc., 1992
All rights reserved.

This manual contains proprietary information. By accepting this manual the recipient agrees that neither this manual nor the information herein nor any part thereof shall be reproduced, stored in a retrieval system, or transferred in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise. Further, the information shall not be disclosed to others or used for any purpose other than that specifically authorized in writing by Virtual Prototypes Inc.

Un sommaire en français de ce rapport est inclus avant la Table des matières.

Transport Canada / Transports Canada

PUBLICATION DATA FORM

1. Transport Canada Publication No.	2. Project No.	3. Recipient's Catalogue No.
TP 11399E	7159	

4. Title and Subtitle	5. Publication Date
Airspace Design System Prototype Phase II Development Project	June 1992
	6. Performing Organization Document No. E.A4.30.8
7. Author(s) B.F.W. Schoor	8. Transport Canada File No. D1455-177-2
9. Performing Organization Name and Address Virtual Prototypes Inc. 5252 de Maisonneuve West, suite 318 Montreal (Quebec) H5A 3S5	10. DSS File No. 21SD.T8200-8-8524
	11. DSS or Transport Canada Contract No. T8200-8-8524/02-SD
12. Sponsoring Agency Name and Address Transportation Development Centre (TDC) 200 René-Lévesque Blvd. West West Tower, Suite 601 Montreal (Quebec) H2Z 1X4	13. Type of Publication and Period Covered Final Report
	14. Project Officer Yves LeBorgne

15. Supplementary Notes (Funding programs, titles of related publications, etc.)

Cofunded by Aeronautical Information Services

16. Abstract

This report presents the results of the Airspace Design System prototype, also called Airspace Design Expert System (ADES), phase II development project. ADES is a graphics computer based software for designing, updating and optimizing instrument approaches and airways.

The purpose of the project was to develop a full-scale system that will allow flight inspectors to design flight procedures without using paper documentation.

Rules extracted from the TP 308 criteria book are interpreted by an expert system which is embedded in ADES. Paper maps are replaced with Digital Terrain and Elevation Data that are processed to produce 2D contour maps and 3D terrain for realistic flythroughs. Aeronautical data is stored in a relational database that can easily be accessed by the designer using a comprehensive graphical user interface. This data can also be viewed in 2D and 3D graphical representations for a better assessment of the flight and design domains.

Advanced software techniques and tools were used for the software development. Object-oriented principles were used for the software design. The X/Motif system was used for the graphical user interface.

ADES was still under development when contract funds were exhausted. A significant amount of work is necessary to make ADES operational.

17. Key Words	18. Distribution Statement
Flight Procedure Design, Computer Aided Design, Computer Graphics, Graphical User Interface, Expert System, Digital Terrain Model	Limited number of copies available from the Transportation Development Centre on request

19. Security Classification (of this publication)	20. Security Classification (of this page)	21. Declassification (date)	22. No. of Pages	23. Price
unclassified	unclassified	-	xi, 21, App.	-

TDC/CDT 79-005
Rev 88

Canada

Transports Canada / Transport Canada

FORMULE DE DONNEES POUR PUBLICATION

1. N° de la publication de Transports Canada	2. N° de l'étude	3. N° de catalogue du destinataire
TP 11399E	7159	

4. Titre et sous-titre	5. Date de la publication
Airspace Design System Prototype Phase II Development Project	Juin 1992
	6. N° du document de l'organisme exécutant E.A4.30.8
7. Auteur(s)	8. N° de dossier — Transports Canada
B.F.W. Schoor	D1455-177-2
9. Nom et adresse de l'organisme exécutant	10 N° de dossier — ASC
Virtual Prototypes Inc. 5252 ouest, de Maisonneuve, suite 318 Montréal (Québec) H5A 3S5	21SD.T8200-8-8524
	11. N° de contrat — ASC ou Transports Canada T8200-8-8524/02-SD
12. Nom et adresse de l'organisme parrain	13. Genre de publication et période visée
Centre de développement des transports (CDT) 200 ouest, boul. René-Lévesque Tour ouest, Suite 601 Montréal (Québec) H2Z 1X4	Rapport final
	14. Agent de projet Yves LeBorgne

15. Remarques additionnelles (Programmes de financement, titres de publications connexes, etc.)

Coparrainé par les Services d'information aéronautique

16. Résumé

Ce rapport présente les résultats de la phase II du projet de développement d'un prototype de système pour la conception de l'espace aérien, aussi appelé «Airspace Design Expert System» (ADES). Le système ADES est un logiciel pour ordinateur graphique servant à la conception, modification et optimisation des routes aériennes et des approches aux instruments.

L'objectif du projet était de développer un système complet qui permet aux inspecteurs de vol de concevoir des procédures de vol sans utiliser de document sur papier.

Des règles extraites du livre de critères TP 308 sont interprétées par un système expert qui est intégré dans l'ADES. Les cartes géographiques sont remplacées par des données de terrain numériques qui servent à produire des images graphiques du terrain en 2D et en 3D. L'information aéronautique est emmagasinée dans une base de données relationnelle facilement accessible à l'utilisateur grâce à une interface-utilisateur graphique et intuitive. Les données peuvent également être visualisées sur les images 2D et 3D permettant ainsi une meilleure évaluation du domaine.

Des techniques avancées de production de logiciel ont été utilisées. Les principes orientés-objet ont été utilisés pour la conception du logiciel. Le système X/Motif a été utilisé pour l'interface.

ADES était encore en développement quand l'enveloppe budgétaire du contrat a été atteinte. Une quantité appréciable de travail est nécessaire pour rendre le système opérationnel.

17. Mots clés	18. Diffusion
Design de procédures de vol, conception assistée à l'ordinateur, infographie, interface-utilisateur graphique, système expert, modélisation numérique du terrain	Le Centre de développement des transports dispose d'un nombre limité d'exemplaires.

19. Classification de sécurité (de cette publication)	20. Classification de sécurité (de cette page)	21. Déclassification (date)	22. Nombre de pages	23. Prix
non-classifiée	non-classifiée	-	xi, 21, ann.	-

CDT/TDC 79-005
Rev 88

Canada

ACKNOWLEDGEMENTS

The ADES project has greatly benefited from the important comments and suggestions of Mr. J. Ainsworth of the Aeronautical Information Services Division, Transport Canada. Contributions in the area of program management were provided by Mr. B. Myers and Mr. Y. LeBorgne of Transportation Development Centre, Policy and Coordination, Transport Canada. The existing result would not have been achieved without the full cooperation and support of VPI senior management and staff members. The ADES team members are especially credited for their high-quality technical input and enormous effort.

SUMMARY

The report presents the results of phase II of the Airspace Design System (ADS) development project which consisted mainly in the development of a prototype ADS system, also called the Airspace Design Expert System (ADES).

The objective of ADES is to provide a self-contained, intelligent, interactive computer graphics environment for civil aviation inspectors to design, modify, and optimize instrument approaches and airways.

ADES was undertaken by Virtual Prototypes Inc. on behalf of Aeronautical Services of Transport Canada with the financial assistance of Transportation Development Centre of Transport Canada. It builds upon the experience gained during the Airspace Design System (ADS) pilot project.

The ADS Phase II Development Project started in 1989 and lasted 31 months. The project activities were carried out by a team of one to six software engineers, depending on the phase.

A set of requirements was specified during the initial phase of the project, based on discussions held with Mr. J. Ainsworth of Transport Canada and in line with what was learned through ADS.

In the design phase, an organizational structure for the ADES prototype was designed and described based on the requirements defined in the previous phase. The resulting system architecture contains three distinct parts: an Interactive Design Environment, a Design Support Environment, and External Knowledge and Data Bases. In addition, support utilities allow for linkage with external environments.

An important aspect of the ADES project is the development of scientific knowledge and introduction of new technologies. The project has undoubtedly succeeded in this area. An SGI high-performance graphics workstation was used, a platform that belongs to the most advanced graphics hardware available today. Object-oriented principles were applied in the form of a software development methodology and C++. In addition, X and OSF/Motif were used, and advanced environments were embedded for the knowledge engineering and data base management capabilities.

Also, new trends in airspace management were established. ADES integrates three concepts into one self-contained computerized airspace design environment. A sophisticated graphical user interface based on OSF/Motif, with advanced 2D and 3D graphics, allows for optimal visualization of the design and flight domains. Integrated expert system knowledge bases provide expert aviation advice on all aspects of airspace design from airways to approaches with consideration of minimum clearance requirements. Complete aeronautical relational data bases provide all the aeronautical information that is needed for airspace design, from the location of airports to the structure of restricted airspaces. Substantial productivity and quality gains result from this.

It is expected that the finalized system will result in important cost savings. Increase in the number of flight procedures designed and reviewed per designer, automated administrative features, centralized information management and expert advice, and error reduction save time and money. In addition, it is expected that training expenses will be reduced.

On October 11/91, an ADES prototype software system was delivered to Transport Canada as a partial implementation of the concepts developed. Modules were implemented in C and C++, following object-oriented principles.

Tangible results were achieved for all subsystems including the graphical user interface. Since development and integration activities were still in progress at the moment of delivery, a number of additions are necessary in order to make the system operational in several areas: subsystem features, MMI windows, knowledge bases, and kernel construction.

SOMMAIRE

Ce rapport présente les résultats de la phase II du projet de développement d'un prototype de système de conception de l'espace aérien, aussi appelé ADES («Airspace Design Expert System»).

L'objectif de l'ADES est de fournir un environnement intégré et intelligent de graphisme par ordinateur pour permettre aux inspecteurs de vol de l'aviation civile de concevoir, modifier et optimiser les routes aériennes et les approches aux instruments.

ADES a été entrepris par Virtual Prototypes Inc. pour le compte des Services aéronautiques de Transports Canada avec l'assistance financière du Centre de développement des transports de Transports Canada. Le système est basé sur l'expérience acquise lors du développement du projet pilote (ADS: Airspace Design System).

La phase II du développement du système ADES a débuté en 1989 et a duré 31 mois. Les activités du projet ont été réalisées par une équipe d'un à six informaticiens, selon la phase de réalisation.

Les caractéristiques du système ont été spécifiées lors de la phase initiale du projet. Elles sont basées sur des discussions tenues avec M. J. Ainsworth de Transport Canada et sont cohérentes avec ce qui a été appris lors du développement du projet pilote.

Lors de la phase de design, la structure organisationnelle du prototype ADES a été conçue et documentée en se basant sur les caractéristiques définies lors de la phase précédente. L'architecture du système qui en a résulté contient trois parties distinctes: un environnement de conception interactif, un environnement de support à la conception, et des bases externes de connaissances et de données. De plus, des utilitaires permettent d'établir des liens avec des environnements externes.

Un aspect important du projet ADES est le développement de connaissances scientifiques et l'introduction de nouvelles technologies. Le projet a indéniablement réussi dans ces domaines. Une station graphique haute performance de Silicon Graphics Inc., un équipement qui fait partie des ordinateurs graphiques les plus avancés présentement disponibles, a été utilisée. Les concepts orientés-objet ont été utilisés pour la méthodologie de développement du logiciel et ont guidé le choix du langage de programmation, soit C++. De plus, les systèmes X et OSF/Motif ont été utilisés, et des environnements de développement avancés ont été inclus à l'intérieur des systèmes de conception de bases de connaissances et de gestion de la banque de données.

Le système établit de nouvelles tendances pour la gestion de l'espace aérien. L'ADES intègre trois concepts en un tout pour la conception assistée à l'ordinateur de l'espace aérien. Une interface-utilisateur sophistiquée basée sur OSF/Motif, comprenant des images graphiques 2D et 3D, permet une visualisation optimale du domaine aéronautique et du domaine de conception. Les bases de connaissances du système expert intégré au système fournissent des conseils d'expert sur tous les aspects de la conception de l'espace aérien, que ce soit pour les routes aériennes ou pour les approches en tenant compte des exigences pour l'espacement minimum. Une banque de données aéronautiques relationnelle fournit toute l'information aéronautique nécessaire pour la conception de l'espace aérien, telle que la location des aéroports ou la structure des espaces aériens à accès contrôlé. Des bénéfices substantiels en productivité et en qualité devraient résulter de ces caractéristiques.

Il est prévu que le système final permettra d'importantes économies. L'augmentation du nombre de procédures de vol conçues et révisées par concepteur, l'automation de procédures administratives, la gestion centralisée de l'information, les connaissances intégrées d'un expert, ainsi que la réduction des erreurs épargnent du temps et de l'argent. De plus, il est prévu que les dépenses en entraînement seront réduites.

Le 11 octobre 1991, un prototype du logiciel ADES a été livré à Transports Canada. Il s'agit d'une implantation partielle des concepts qui ont été développés. Les modules ont été réalisés en C et en C++, en suivant les principes de la méthodologie orientée-objet.

Des résultats tangibles ont été obtenus pour tous les sous-systèmes incluant l'interface-utilisateur graphique. Parce que les activités de développement et d'intégration était en cours au moment de la livraison, des ajouts dans plusieurs domaines sont nécessaires afin de rendre le système opérationnel, en particulier: les caractéristiques des sous-systèmes, l'interface-utilisateur, les bases de connaissances et la construction de la logique interne du système.

TABLE OF CONTENTS

1 INTRODUCTION 1
1.1 Scope 1
1.2 Background 1
1.3 Basic Concepts 1

2 PROJECT OVERVIEW 3
2.1 Planning 3
2.2 Requirement Specification 3
2.3 Conceptual Design 4
2.4 Detailed Design, Coding, and Integration 4

3 ADES PROTOTYPE DESCRIPTION 6
3.1 System Overview 6
3.2 Interactive Design Environment 7
3.2.1 Graphical User Interface Modules 7
3.2.2 Flight Procedure Design Modules 7
3.2.3 Utility Modules 7
3.2.4 Object Modules 7
3.2.5 2D & 3D Graphics Modules 8
3.3 Design Support Environment 8
3.3.1 NEXPERT OBJECT Inference Engine 8
3.3.2 INFORMIX Data Engine 8
3.4 External Knowledge Bases and Data Bases 8
3.4.1 FPD Criteria Knowledge Bases 9
3.4.2 Design Domain Object Data Base 9
3.4.3 Graphics Symbol Libraries 9
3.4.4 Geographical Data Bases 9
3.4.5 Earth Model Data Base 9
3.4.6 User Settings Data Base 9
3.4.7 Workfile Data Base 9
3.4.8 FPD Trace Data Base 9
3.5 Support Utilities 10
3.5.1 2D and 3D Geographical Data Preprocessors 10
3.5.2 ARINC-424 Data Base Import/Export Facility 10
3.5.3 2D and 3D Object Editors and CG-1 10
3.5.4 NEXPERT OBJECT Development Environment 10
3.5.5 INFORMIX-SQL Development Environment 10
3.6 ADES Operations 11
3.7 Hardware and Software Requirements 12

4 RESEARCH AND DEVELOPMENT 13
4.1 Status of R&D 13
4.1.1 Advancement of Technology and Scientific Knowledge 13
4.1.1.1 *Hardware* 13
4.1.1.2 *Software* 13
4.1.1.3 *Airspace Design* 14
4.1.2 Prototype Functionality 15
4.1.3 Outstanding Research Requirements 15

4.2 Status of the ADES Prototype 15
4.2.1 Outstanding Development Issues 15
4.2.1.1 *MMI Modules* 15
4.2.1.2 *Object Modules* 16
4.2.1.3 *Graphics Modules* 16
4.2.1.4 *Flight Procedure Design Modules* 16
4.2.1.5 *Knowledge Bases* 16
4.2.1.6 *Integration* 16
4.2.2 Software Quality Assurance 16
4.2.2.1 *Testing* 16
4.2.2.2 *Reviews* 17
4.2.3 Software System Files 17
4.3 Future Activities 17
4.4 Spin-Off Research 17

5 CONCLUSIONS 19

REFERENCES 20

ACRONYMS AND ABBREVIATIONS 21

BIBLIOGRAPHY 22

APPENDIX A-1

1 INTRODUCTION

1.1 Scope

The objective of the Airspace Design System prototype (herein referred to as the Airspace Design Expert System or ADES) is to provide a self-contained, intelligent, interactive computer graphics environment for civil aviation inspectors to design, modify, and optimize instrument approaches and airways.

ADES builds upon the knowledge and experience gained during the Airspace Design System (ADS) pilot project, in which the feasibility of designing instrument approaches and airways in a computerized environment was explored. ADS was completed in 1988. A summary of the accomplishments of the ADS project appears in its final report (TP 9601E).

ADES was undertaken by Virtual Prototypes Inc. on behalf of Aeronautical Information Services of Transport Canada with the financial assistance of Transportation Development Centre of Transport Canada.

1.2 Background

Aircraft operating under Instrument Flight Rules (IFR) fly on predetermined flight paths from take-off to landing. To ensure safe operation of aircraft in flight, the design of these paths must be based on established criteria. The flight procedure design criteria specify the method, allowable tolerances, units of measurement and accuracies for the various phases of an aircraft's itinerary. The criteria for the development of Instrument Procedures are used to design the ideal flight path of a flight procedure. Each ideal flight path is governed by its relationship to an Obstacle Clearance Surface (OCS). The safe operation along the flight path depends on obstacles, both terrain and man-made, not penetrating the OCS.

The flight procedure design criteria set down rules and limits based on the operating performance of the aircraft and the accuracy of the navigation aids. The criteria are standards for guiding the flight procedure design specialists to design specific flight paths. Often, the standards must be interpreted using the judgement of specialists to resolve specific problems. The present design criteria reflect the accumulation of knowledge and the evolution of methods used by design specialists in the past.

Until now, design specialists have prepared flight procedures manually, using topographical charts of various scales, templates, aerodrome site plans and other aeronautical information publications. The information needed by the specialists is often scattered and duplicated. The validity of the information is time-dependent. This leads to unavoidable redundancy and inconsistency. The need for lengthy calculations and detail drafting, checking and cross-checking makes it very difficult for the specialists to make minor adjustments or to try out alternative solutions.

With improved aircraft flight management/navigation systems and the introduction of new terrestrial and orbital navigation facilities, the criteria for designing safer flight paths must be revised. As airports are expanded and better navigation facilities are added, existing flight paths must be re-evaluated and new ones must be designed. The current method of updating instrument approaches and airways will not be cost-effective as demands increase in the future.

1.3 Basic Concepts

Modifications to existing criteria must be done carefully. The existing criteria evolved from past experience. Modifications usually involve new untested concepts. It is important that these new concepts be tried and tested and the possible alternatives evaluated before setting down the new directives.

The concept of developing an integrated computer aided design environment for Instrument Flight Procedure development is a novel idea. The vision is to have a design suite that is self-contained with high usability for novice computer users. This ambitious idea is feasible today partly as a result of the convergence of the latest development in several areas of computer technology, namely affordable high speed workstations, high performance 3D computer graphics, the coming of age of expert system applications, and the advancement in data storage and data management technology.

ADES brings together the various elements of the application: data for the air navigation facilities and obstacles, criteria for the flight procedure design, and information of the physical world to provide an integrated computer environment that replaces the existing manual environment.

For such a system to be accepted by its potential users, its usability is a priority. Hence, the user interface issues dominate the design choices from the beginning. A carefully designed graphical user interface (GUI) provides a uniform and simple medium with which the design specialist can communicate. Results are presented graphically to maximize visualization and optimize feedback.

Another dominating system design strategy is the ability to handle future demands imposed by new requirements. These anticipated demands are generated by the imminent arrival of new navigation systems such as Microwave Landing Systems (MLS) and Global Positioning Systems (GPS) as well as by the rising performance and safety standards required to handle congested airspace.

It is not enough to replace the existing development procedure by a computerized version as provided by most automation processes. Such a system will quickly become either obsolete or unmaintainable. Instead, an expert system approach is used to capture the expertise required to help the design specialist in the task of flight procedure development. By providing ways of modifying the expert knowledge used in ADES, the system can adapt to different requirements, present or future. A flexible data management strategy is also used in order to provide a centralized information data base that can be maintained and expanded with ease.

2 PROJECT OVERVIEW

2.1 Planning

The project was started with a planning phase in which a Project Plan document [1] was produced. In this phase, development strategies were determined with respect to scheduling, resources, and implementation. Remaining project activities were organized into phases and associated tasks were identified for each of these phases. A project schedule and cost estimate was generated based on this information. In addition, SQA guidelines were established in order to ensure the successful execution of the project.

2.2 Requirement Specification

Throughout the next phase, the requirements of ADES prototype were determined. This took place mainly on the basis of continual consultation between Mr. J. Ainsworth of Transport Canada and the ADES team members in addition to what was learned from ADS.

Most importantly, the scope of ADES was defined in the form of boundaries and required features. The philosophy based on which ADES was to be developed was formulated as follows.

With the availability of ADES, one must be able to:

1. Eliminate
   - TP 308 courses for regional flight inspectors
   - File look-ups from dispersed sources
   - Repetitive manual drafting
   - Manual calculation of complex mathematical steps
   - Arbitrary interpretation of standards and criteria

2. Help
   - Create and verify instrument approaches and airways
   - Maintain standards
   - Minimize human error
   - Improve accuracy and optimize designs
   - Improve the mode of storage and management of data
   - Improve efficiency and avoid duplication of effort
   - Provide better visualization of the instrument approaches and airways through 2D and 3D graphics
   - Develop of new criteria underlying designs

As a result, it was established that the objective of the Phase II Development Project is an implemented ADES prototype that:

- Incorporates all the existing TP 308 criteria in instrument approach procedure and enroute airway design in a way that will allow future extensions and modifications
- Provides the digital terrain, the aeronautical information, and the obstacle data base facilities for all of Canada and part of the United States
- Provides facilities to manage and maintain up-to-date data bases
- Provides facilities to modify the criteria in Instrument Flight Procedure design

Functional requirements were specified for the following categories:

- Design and Flight Domain
- Flight Procedure Design
- Graphical Displays
- Man-Machine Interface

In addition, a user profile was established, and Performance and Environmental Requirements were defined (including hardware and software specifications).

All results were documented in the ADES User Requirement Technical Specification document [2]. Also, an SGI Personal Iris 4D-25TG workstation was purchased based on the needs identified in this phase.

2.3 Conceptual Design

In the third phase, an organizational structure for the ADES prototype was designed and described based on the requirements defined in the previous phase. The resulting system architecture contains a number of system components, called subsystems.

Required subsystems, modules, operations, attributes, data structures and interfaces were identified and described in accordance with an object-oriented software development methodology. For this purpose, a set of simple and effective notations and conventions was introduced. Essentially, the architecture of each system component is constructed by decomposition based on objects, each of which represents a data abstraction of an entity in the problem space. Classes of objects are used as the modules in the architecture. Class/Object Hierarchy Diagrams, Module Descriptions, Mechanism Diagrams, and State-Transition Diagrams were used in order to represent and describe the designs.

The user interface hierarchy was also described as part of this phase, in the form of windows and associated functions for each user event. System functions were grouped under six headings: Session, Environment, Procedures, Graphics, Storage, and Utilities.

A total number of 30 ADES data base table structures were constructed based on the design domain and flight domain requirements, and based on the principles of relational data bases. The ADES data base contains all the necessary aeronautical data as well as obstacle information.

Test strategies and procedures were put in place in line with the previously established SQA guidelines and the software development methodology adhered to.

The end products of this phase are the ADES Conceptual Design document [3] and the ADES Software Test Plan document [4].

Another tangible result achieved during this phase was an article on ADES that was written in collaboration with Mr. J. Ainsworth. It was published and presented at a technical conference in Ottawa [5].

2.4 Detailed Design, Coding, and Integration

The activities in the fourth phase were based on the design descriptions produced in the Conceptual Design phase. Where applicable, detailed designs were produced in order to obtain sufficient depth for the implementation effort.

The overall implementation effort was divided among the team members according to the division of subsystems (see 3.1).

The language of implementation was a combination of C and C++. Fortunately, a C++ compiler became available at the beginning of this phase, permitting a straight mapping of the design descriptions onto source code. Also, a C++ class library was purchased from Rogue Wave as a layer of basic classes (e.g. for string manipulations, file manipulations, matrix calculations, etc.). Approximately 75% of the source code was written in C++. It was necessary to write a portion of the system in C in order to be able to interface with system software and embedded environments such as NEXPERT OBJECT and INFORMIX. Where code could be written in C++, a C++ class was created for each module identified in the Conceptual Design. The C++ class holds all the characteristics that instantiated objects possess at run-time. Especially with the availability of concepts such as inheritance and polymorphism, it was possible to build a very structured and clean software system.

For the construction of windows, the OSF/Motif user interface standard was adhered to. This had two advantages. From the user's point of view, a GUI built according to a standard style guide reduces familiarization time and increases efficiency of operation. From the development point of view, the system becomes more maintainable, more portable, and more open so that even outside tools could be applied to simplify development efforts. In fact, such an outside tool was used in the form of UIM/X, a so-called "GUI Building" tool.

Integration activities have already started. A "dispatcher" or kernel was constructed providing a means for controlling all communication between the subsystems. This kernel is closely linked to the MMI Modules, since all system actions are initiated by user events. Integration work was in progress at the time the ADES prototype was delivered to Transport Canada.

3 ADES PROTOTYPE DESCRIPTION

This section gives a high-level description of the ADES software system that was developed under this contract. A completion status description can be found in section 4.

3.1 System Overview

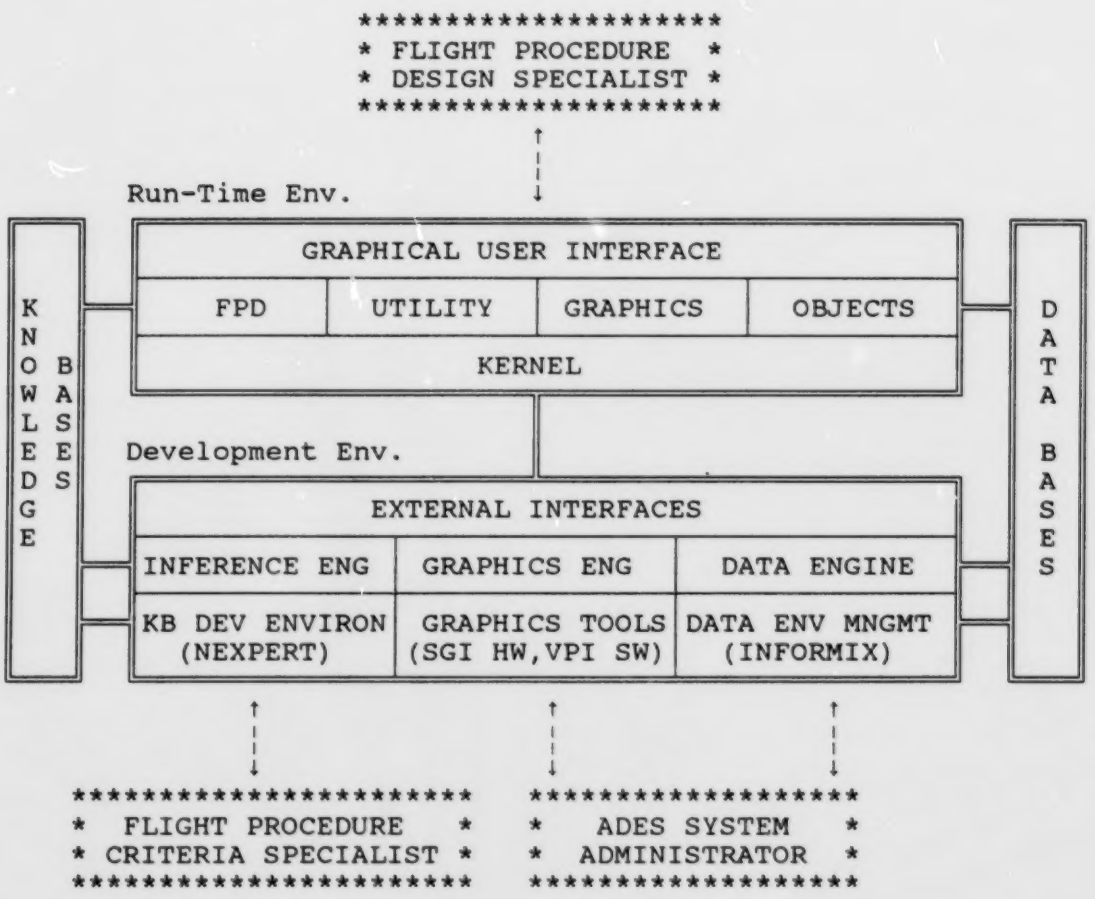

Figure 3.1 ADES System Overview

The overall ADES system architecture contains three distinct parts, as shown in Figure 3.1:

- Interactive Design Environment (Run-Time Environment)
- Design Support Environment (Development Environment)
- External knowledge bases and data bases

In addition, a number of support utilities allow for customization, import/export capabilities, off-line knowledge base and data base management, and preprocessing.

3.2 Interactive Design Environment

The Interactive Design Environment is built around an ADES kernel and is accessed by the Design Specialist through a Graphical User Interface (GUI).

The internal system components of this environment include:

- Graphical User Interface (GUI) Modules
- Flight Procedure Design (FPD) Modules
- Utility Modules
- Object Modules
- 2D & 3D Graphics Modules

Three external components are accessed through the external interfaces layer. A more detailed description of the external components is given in 3.3.

3.2.1 Graphical User Interface Modules

All user interaction with ADES takes place through the Graphical User Interface (GUI) modules. This group of modules can be observed as a layer that handles traffic between the user and the core of the system in both directions. Data entry and input control by the user is received by the GUI modules and passed to the appropriate system components for further processing. Textual and graphical system output that is produced by any of the system components is directed to the GUI for actual presentation to the user.

3.2.2 Flight Procedure Design Modules

Flight Procedure Design (FPD) Modules are responsible for the system features directly related to the design of instrument flight procedures. The link with the NEXPERT OBJECT Inference Engine makes use of NEXPERT OBJECT's Callable Interface and allows for session control of the expert system (ES) from within other system components as well as for processing requests and trace data originated within the ES.

3.2.3 Utility Modules

The Utility Modules incorporate the desk calculator, the geodesic calculator, the clipboard, and the hardcopy facility. Calculation of magnetic variation and earth model parameters is also performed by the modules in this group using the data sets stored in the other data bases. Further responsibilities include the map projections and coordinate transformations as well as the aircraft characteristics.

3.2.4 Object Modules

The Object Modules handle the access, manipulation and requested descriptions of design domain object data. Requests and/or data entry by users are processed by these modules and passed to the INFORMIX Data Engine. In the reverse direction, data received from the INFORMIX Data Engine is channelled to the user through the Data Modules. Also, terrain data and contour map data is retrieved and stored through these modules.

3.2.5 2D & 3D Graphics Modules

The 2D Graphics Modules are used for construction of the Focus of Interest Overview and Preview, the 2D Plan View, the 2D Profile, and the IAP Chart. Symbols are created with the VPI 2D Object Editor and stored in the Graphics Symbol Library.

The 3D Graphics Modules are responsible for the construction of the 3D Perspective View. The 3D Viewer Engine is activated by this set of modules for the purpose of displaying the 3D Perspective View and performing the Simulated Flythrough. The VPI 3D Object Editor is applied in order to develop the symbology for object representations which is stored in the Graphics Symbol Library.

3.3 Design Support Environment

The Design Support Environment, which is also the environment initially used to build the ADES prototype, consists of the NEXPERT Object expert system development tools, the INFORMIX DBMS, and a graphics environment provided by the workstation and proprietary graphics tools.

The cores of the three external system components, i.e.:

- NEXPERT OBJECT Inference Engine
- INFORMIX-SQL Data Engine
- VPI Graphics Engine

are also work horses for the Interactive Design Environment. The ADES Kernel accesses these engines through respective callable external interfaces.

3.3.1 NEXPERT OBJECT Inference Engine

The run-time environment of NEXPERT OBJECT is responsible for performing the reasoning that takes place by the expert system component during a design session.

3.3.2 INFORMIX Data Engine

All data base access in the ADES run-time environment is realized through the INFORMIX data engine (i.e. the run-time environment of INFORMIX formed by INFORMIX-SQL and INFORMIX-ESQL/C).

3.4 External Knowledge Bases and Data Bases

The knowledge bases and the data bases are kept external to the two environments. This isolation allows for easy fine-tuning and reconfiguring by replacing the contents of the knowledge and data bases without touching the rest of the system.

The following knowledge and data bases are included:

- FPD Criteria Knowledge Bases
- Design Domain Object Data Base
- Graphics Symbol Libraries

- Geographical Data Bases
- Earth Model Data Base
- User Settings Data Base
- Workfile Data Base
- FPD Trace Data Base

3.4.1 FPD Criteria Knowledge Bases

The Knowledge Bases contain rules and objects reflecting the criteria for instrument flight procedure designs. The content of one or more Knowledge Bases is loaded into the NEXPERT OBJECT Working Memory prior to or during an inference session. Development of the rules and objects takes place using the development environment of NEXPERT.

3.4.2 Design Domain Object Data Base

The design domain object data reside in the INFORMIX-SQL Data Base. Similar to the Knowledge Bases, the INFORMIX-SQL Data Base is developed beyond the actual design session. Run-time access takes place through the INFORMIX ESQL/C interface by the Object Modules.

3.4.3 Graphics Symbol Libraries

The Graphics Symbol Libraries provide the symbology for the 2D and 3D Graphics Displays. The content is developed by means of the VPI 2D and 3D Object Editors.

3.4.4 Geographical Data Bases

Terrain data and other geographical data is stored on CD-ROM or disk. This data is preprocessed through the Geographical Data Preprocessors, GenMap and GenTer.

3.4.5 Earth Model Data Base

Data sets for the magnetic variation and the earth model are contained by the Earth Model Data Base.

3.4.6 User Settings Data Base

The User Settings Data Base provides a means of storing user settings pertaining to the GUI part of the system. It is for this reason that a direct link with the GUI Modules exists.

3.4.7 Workfile Data Base

Workfiles enable the reconstruction of flight procedure designs in progress. Information may contain complete session states, temporary design domain objects, and flight procedure designs.

3.4.8 FPD Trace Data Base

The FPD Trace Data Base are filled during a design session with information about fired and discarded rules, modified object property values, etc. This information allows the user to examine inferences and to request explanations. Access to and from the FPD Trace Data Base is performed by FPD Modules.

3.5 Support Utilities

Several utilities have been developed or purchased to improve efficiency, extensibility, and flexibility. These tools generally provide output that is used by ADES at run-time. Included are:

- 2D and 3D Geographical Data Preprocessors
- ARINC-424 Data Base Import/Export Facility
- 2D and 3D Object Editors and CG-1
- NEXPERT OBJECT Development Environment
- INFORMIX-SQL Development Environment

3.5.1 2D and 3D Geographical Data Preprocessors

The 2D and 3D Geographic Data Preprocessors (GenMap and GenTer) provide for the appropriate preprocessing of terrain data and other forms of geographic data. The output data of these utilities is used by the 2D and 3D Graphics Modules.

3.5.2 ARINC-424 Data Base Import/Export Facility

These utilities provide for the import and exporting of aeronautical information from and to any ARINC-424 compatible data base. This facility is needed if updates between ADES and external aeronautical data bases are required.

3.5.3 2D and 3D Object Editors and CG-1

The 2D and 3D Object Editors enable the creation of symbology for the 2D and 3D Graphics Displays. Storage of symbols is accomplished by means of the Graphics Symbol Library in VPI's graphics metafile format. CG-1 is used for maintaining and updating metafiles.

3.5.4 NEXPERT OBJECT Development Environment

The NEXPERT OBJECT Development Environment is used by the Flight Procedure Design Criteria Specialist (a knowledge engineer and/or flight procedure design expert) to build and test the objects and rules of the Knowledge Bases. It comprises editing facilities and provides a graphics environment for tracing and debugging.

3.5.5 INFORMIX-SQL Development Environment

The INFORMIX-SQL Development Environment enables stand-alone creation and maintenance of the INFORMIX-SQL Data Base. Data forms, reports, and files can be generated through an SQL-based user interface.

3.6 ADES Operations

This paragraph explains the basic steps performed by a flight procedure designer in order to complete a design session with ADES.

1. Browse Data

Via a series of easy-to-use maps and displays, one can browse through a centralized database to progressively focus attention on specific areas of interest.

2. Information Access

Quick and easy access to information is accomplished via an interactive custom-designed user interface. Data security measures ensure system integrity. Permanent validated data is reliably separated from temporary test data when used in a design session. The ability to introduce new information safely facilitates planning functions such as the design of a new airport, the addition of new runways or the placement of new navigation facilities.

3. Contour Map

An annotated contour map based upon Digital Terrain Elevation Data constitutes the main ADES workspace. All design and flight domain elements are displayed on this visual workspace, making it easier to use, easier to control and more accurate than traditional paper charts and drafting templates. A full range of positioning and viewing functions are made available to the user. ADES also includes a unique viewing feature where one can profile a selected area of the workspace.

4. 3D Model

3D modelling of terrain and flight procedure elements in ADES add a new dimension of realism to one's perspective. One can observe flight procedure elements and airspaces in relation to physical obstructions and terrain from different positions and angles.

5. Computation

Although most of the computations needed for the design of flight procedures are done automatically, ADES provides a complementary set of maths tools for geodesic functions, coordinate transformations and unit conversions.

6. Flight procedure design

Flight procedure design sessions are structured and supported by an expert system that is based upon flight procedure design knowledge. One directs the overall design process and provides the critical choices through the ADES menu-driven graphic environment. Furthermore, this built-in knowledge in the expert system can be configured to conform with any design criteria standards.

7. Design feedback

ADES provides immediate and accurate visible feedback at each stage of the design process. Flight paths, protected airspaces, and obstacle clearances are viewed and evaluated in a choice of 2D and 3D design environments.

8. Design options

As the ADES flight procedure design session progresses, other features or options consistent with the underlying criteria are brought into play. The ease with which different options can be implemented and compared allow one to make a better design decision.

9. Simulated flight

Realistic 2D and 3D graphics support provides a comfortable and effective medium to visually interpret the results of a flight procedure design. ADES also lets you simulate, on the spot, a flight inspection scenario of a completed flight procedure.

10. Documentation

Flight procedure design results can be readily and automatically documented in the form of a report summary, an instrument approach or departure plate, or as an aeronautical chart. ADES prints these reports and charts for rapid distribution of up-to-date information. A record of the design session can also be saved for future reference and evaluation.

3.7 Hardware and Software Requirements

The following requirements apply for both the Headquarters and the Regional system configuration:

- Silicon Graphics IRIS 4D, Personal IRIS, or Indigo
- Turbo Graphics Library
- 200MB system disk
- 16MB main memory
- Irix 4.0.1 or later
- NEXPERT OBJECT Runtime Library
- INFORMIX-SQL and EQSL/C Runtime Library
- Digital terrain data in DTED or DEM format
- CD-ROM disk subsystem
- Optional 2D and 3D graphics editors
- Optional laser printer and/or plotter

Additional requirements for the Headquarters system include:

- NEXPERT OBJECT Development Environment
- INFORMIX-SQL Development Environment
- 380MB system disk (instead of 200MB disk)

4 RESEARCH AND DEVELOPMENT

4.1 Status of R&D

4.1.1 Advancement of Technology and Scientific Knowledge

An important aspect of the ADES project is the development of scientific knowledge and the introduction of new technologies. The project has undoubtedly succeeded in this area. Very advanced graphics workstations were used, the latest software development methodologies and tools were applied, and new trends in airspace management were established.

4.1.1.1 *Hardware*

The ADES system was developed on the Silicon Graphics Iris 4D graphics workstation. The capabilities of this platform were fully utilized in order to obtain an optimal software system in terms of quality, ease of use, and performance. In particular, this hardware allowed the implementation of the high-performance graphics visualization software essential for a computerized airspace design environment.

Hardware devices further include a high-resolution colour monitor, an ASCII keyboard and a mouse device allowing for efficient user interaction.

The large amounts of geographical data made it worthwhile to investigate alternative storage media. It was decided to use CD-ROM technology for this purpose, and this technology has proven to be superior to conventional media in the implementation phase. Terrain data covering all of Canada was provided by Transport Canada.

4.1.1.2 *Software*

As expected, Unix appeared to provide a proper and efficient operating system environment for development of all software.

All software development activities, from requirement specification to implementation, were based on an object-oriented approach. Conventions were introduced to support the design effort. The system was implemented in C and C++, the latter of which allowed the development of the source code in line with the object-oriented design descriptions. The fact that C++ has become available only recently on workstation proves that indeed the latest technology was taken advantage of.

An important concept that was successfully applied in the ADES project is the merging of system software, standard tools and application software.

- C and C++
- X and OSF/Motif

The use of X and OSF/Motif has resulted in a software system that is recognizable for users, and that permits future extensions without serious hardware or software restrictions.

In addition, a number of software development tools were used and/or embedded successfully:

- VAPS
- UIM/X
- NEXPERT OBJECT
- INFORMIX-SQL and INFORMIX-ESQL/C

VPI's main product, VAPS, was used to support several development activities. The graphical user interface (GUI) of ADES was prototyped with the VAPS 2D Object Editor. This same facility was also applied together with the VAPS CG-1 in order to construct the graphical symbol library.

UIM/X was used to generate Motif code based on high-level specifications obtained through graphical drawing and editing tools.

NEXPERT OBJECT has proven to be a suitable expert system development and run-time environment. The knowledge bases are produced within this environment through editing and debugging tools, and operated on by NEXPERT's inference engine that is accessed by ADES through a callable C interface.

The INFORMIX relational DBMS provides all the tools necessary to efficiently manage the aeronautical and obstacle data. Both an off-line development environment and a data engine for run-time purposes are utilized, again accessible through a software interface.

4.1.1.3 *Airspace Design*

ADES integrates three concepts into one self-contained computerized airspace design environment:

- Sophisticated GUI based on OSF/Motif, with advanced 2D and 3D graphics, allows for optimal visualization of the design and flight domains.

- Integrated expert system knowledge bases provide expert aviation advice on all aspects of airspace design from airways to approaches with consideration of minimum clearance requirements.

- Complete aeronautical relational data bases provide all the aeronautical information that is needed for airspace design, from the location of airports to the structure of restricted airspaces.

It is without question that ADES is breakthrough technology for the aviation industry. ADES is the most productive and intelligent assistant available for rapid design, evaluation, and management of airspaces. Productivity gains are realized because of the easy-to-use GUI, instantaneous visual feedback, pre-flight evaluation and simulation tools, automated report generation and chart drafting.

Cost savings result from this. Increase in the number of flight procedures designed and reviewed per designer, automated administrative features, centralized information management and expert advice, and error reduction save time and money. In addition, it is expected that training expenses are reduced.

4.1.2 Prototype Functionality

On October 11/91, an ADES prototype was delivered to Transport Canada. This software system represents a partial implementation of the system outlined in section 3.

Tangible results were achieved for all subsystems including the graphical user interface. Since development and integration activities were in progress at the moment of delivery, a number of additions are desired in order make ADES an operational system.

Additions can be divided into the following categories:

- Subsystem features
- MMI Windows
- Knowledge Bases
- Kernel & Interfaces

The reader is referred to paragraph 4.2 for a detailed list of outstanding items at module level.

4.1.3 Outstanding Research Requirements

There are no outstanding research requirements.

4.2 Status of the ADES Prototype

4.2.1 Outstanding Development Issues

The ADES software delivered to Transport Canada is an implementation based on the system architecture described in section 3. As mentioned in 4.1.2, a number of items are outstanding. The following subparagraphs provide a list per group of modules with detailed design and/or implementation issues that are to be addressed per group of modules.

4.2.1.1 *MMI Modules*

- Graphics Display Tools Windows
- Edit/Describe Windows
- Profile Area Definition
- Listing Mechanism
- Transport Mechanism
- Search Window
- Load/Save Mechanism
- IAP Chart Tool Window
- IAP Profile Area Window
- IAP Flythrough Window
- EFP Design Windows
- IAP Design Windows

4.2.1.2 *Object Modules*

- Edit/Describe Functionality
- EFP/IAP Workfile
- Search Area
- Domain Handling
- Computation of Highest Obstacle

4.2.1.3 *Graphics Modules*

- Focus of Interest Windows
- IAP Chart
- Pick Mechanism
- Labelling
- Cursor/Locator

4.2.1.4 *Flight Procedure Design Modules*

- EFP/IAP Calculations
- Interface with Objects
- Interface with Knowledge Bases
- Interface with MMI
- FPD Trace Data

4.2.1.5 *Knowledge Bases*

- Meta Knowledge Bases
- EFP Knowledge Bases
- IAP Knowledge Bases

4.2.1.6 *Integration*

- Kernel Construction

4.2.2 Software Quality Assurance

A number of SQA activities have been carried out by all team members throughout the execution of the ADES project in order to ensure that the software meets the required quality standards.

In the ADES Software Test Plan [4], a number of procedures had been introduced as a guideline for these SQA activities. Procedures include both testing and review activities.

4.2.2.1 *Testing*

Given the status of the ADES prototype, testing has mainly consisted of Module Testing - i.e. the testing of separate modules (e.g. C++ classes), and Integration Testing - i.e. the testing of cooperating modules in a subsystem.

Testing has taken place in two modes:

- Batch Mode
- Interactive Mode

For testing in batch mode, test drivers were written. Test results were written to terminal, or to test log files.

For testing in interactive mode, a so-called "Class Tester" tool was developed allowing for interactive testing through dialogs.

4.2.2.2 *Reviews*

Design and code reviews have been carried out on a continual basis. This has proven to be very useful because it allowed detection of possible flaws before actual testing takes place. Moreover, it allowed all team members to expand their system knowledge and to improve communication. Also, a considerable amount of C++ experience was transferred in this way.

4.2.3 Software System Files

The Appendix contains the UNIX file listing of the ADES prototype software system delivered on tape to Transport Canada.

4.3 Future Activities

ADES is a very promising concept in the world of airspace design and management. It is obvious that several markets could have a need for this product, e.g. the markets of flight procedure design, design criteria development, and aeronautical data base management.

So far, no concrete marketing or enhancement activities have been planned or undertaken. Commercial activities have been limited to exposing the ADES technology to potential customers. However, this has taken place in a rather ad-hoc manner due to the fact that most effort is currently still concentrated on development issues.

Within the ADES market, it is evident that, in order to keep up with the development of new navigational facilities (e.g. MLS, GPS) and associated design criteria, the ADES knowledge bases will have to be expanded.

4.4 Spin-Off Research

The direct spin-off for the knowledge acquired during the project is the development of a fully integrated ADES prototype system. In addition to providing the functionality described in section 3 of this report, the system could also provide rules for designing feeder routes, holding patterns and RNAV (area navigation) routes. In order to allow researchers to evaluate the impacts of modifying the design criteria, an extensive documentation of the system and especially of the expert system rules could be developed.

As stated in paragraph 4.1.1, important experience was gained with useful new technologies during the development of ADES. The combination of graphics, expert system technology and

data base management covered by a GUI layer is a powerful concept that is likely to be suitable for many other interesting markets.

For the same reasons mentioned in 4.3, no specific activities have taken place within VPI to explore other markets where the ADES technology could be applied in the form of derivative products. It can be stated without extensive research that other aeronautical applications, applications in transportation, and Geographical Information Systems (GIS) applications are likely to be good candidates for such derivatives.

5 CONCLUSIONS

- The ADES Phase II Development Project started in 1989 and lasted 31 months. The project activities were carried out by a team of one to six software engineers, depending on the phase.

- The planning activities have yielded a set of development strategies, a project schedule, and a number of SQA guidelines for usage throughout the project.

- An exhaustive set of requirements was established through discussions with Mr. J. Ainsworth of Transport Canada. This has resulted in a definition of the scope of the project and a list of ADES system features that are desired in order to meet the objectives.

- An object-oriented software development methodology has been adopted in an early stage of the project. For the design activities, conventions have been put in place specifying the major design steps and notation techniques.

- The design effort has resulted in a top-level architecture in which all necessary subsystems and interfaces have been identified. Design descriptions have been produced for each module. The windows of the user interface have been organized in a hierarchical structure, and prototyped layouts were generated using VAPS.

- A software test plan has been written containing procedures and guidelines for testing and review activities.

- The majority of the modules have been implemented, again following object-oriented principles, on an SGI graphics workstation under Unix. Approximately 25% of the code has been written in C, the remaining 75% consists of C++ classes. SQA activities have been performed in the form of testing sessions and code reviews.

- CD-ROM technology has been introduced and has appeared to provide an adequate storage facility for the vast amount of terrain data covering all of Canada.

- Off-the-shelf software products have been analyzed, purchased, and successfully embedded in the ADES prototype software system for the purpose of knowledge engineering (NEXPERT OBJECT) and data base management (INFORMIX). Both software systems contain a development and a run-time environment, and are accessed at run-time through a callable C interface.

- Data base tables have been constructed for the management of aeronautical data as well as man-made obstacle information. An import/export facility has been implemented allowing read and write access from and to ARINC-424 compatible external data bases.

- 2D and 3D Graphics Modules have been developed on top of X Windows using the SGI Graphics Library. Research was done in order to be able to merge X and GL.

- MMI windows have been designed, prototyped with VAPS, and partially implemented using OSF/Motif and UIM/X.

- Knowledge base development has commenced with the design of the meta and EFP knowledge bases.

REFERENCES

1. Lam, L., Leclerc, D., "An Airspace Design System Using a Graphics Workstation - The Pilot Project, Final Report", VPI Technical Doc., Montreal, Sept. 1988, Transport Canada TP 9601E.

2. Lam, L., "ADES Phase II Project Plan", VPI Technical Doc., Montreal, July 1989.

3. Lam, L., McQueen, M., Schoor, B., "ADES User Requirement Technical Specification, VPI Technical Doc., Montreal, October 1989.

4. Lam, L., Schoor, B., McQueen, M., Liu, J., "ADES Conceptual Design", VPI Technical Doc., Montreal, July 1990.

5. Schoor, B., Lam, L., "ADES Software Test Plan", VPI Technical Doc., Montreal, August 1990.

6. Ainsworth, J., Lam, L., Schoor, B., McQueen, M., "Airspace Design Expert System (ADES), A 2d/3d Mapping and Modelling Tool Incorporating an Expert System for Use in Instrument Approach Design", Proceedings of the Canadian Conference on Electrical and Computer Engineering, Ottawa, Sept. 1990, pp. 80.2.1-4.

7. Transport Canada Aviation, "Criteria for the Development of Instrument Procedures", 3rd Edition, Sept.1990, TP 308.

ACRONYMS AND ABBREVIATIONS

ADES	Airspace Design Expert System
ADS	Airspace Design System
ES	Expert System
FPD	Flight Procedure Design
GIS	Geographical Information System
GPS	Global Positioning System
GUI	Graphical User Interface
ICAO	International Civil Aviation Organization
IFR	Instrument Flight Rules
KB	Knowledge Base
MLS	Microwave Landing System
MMI	Man-Machine Interface
OCS	Obstacle Clearance Surface
SQA	Software Quality Assurance
VAPS	Virtual Applications Prototyping System
VPI	Virtual Prototypes Inc.

BIBLIOGRAPHY

- Meyer, B., "Object-Oriented Software Construction", Prentice-Hall, 1988.

- International Civil Aviation Organization (ICAO), "Procedures for Air Navigation Services, Aircraft Operations, Flight Procedures", Third Edition, 1986, DOC 8168-OPS/611 Vol. 1.

- International Civil Aviation Organization (ICAO), "Procedures for Air Navigation Services, Aircraft Operations, Construction of Visual and Instrument Flight Procedures", Third Edition, 1986, DOC 8168-OPS/611 Vol. 2.

APPENDIX

This appendix provides information on the content of the files provided to Transport Canada at the end of the contract. As requested by Transport Canada, information is described for each significant file type. A complete listing of the files on the tape appears at the end of this appendix.

NOTES: - In accordance with the UNIX notation, directories are indicated as "<directory_name>/", whereas actual files are indicated as "<directory_name>/<filename>".
- Comments and explanations in examples are given in the form of a semi-column (";"), followed by the comment description.

GENERAL DIRECTORIES AND FILES

README

PURPOSE:

These files given an overview of the files resident in the corresponding directory.

RCS/ and RCS/*,v

PURPOSE:

The "RCS" directories are used for configuration control purposes. They contain the original files including history information.

Files with name structure "*,v" can be found in user readable format in the corresponding file in the parent directory.

Example: one should in file "src/data/dom_design.c++" instead of in "src/data/RCS/dom_design.c++,v" (unless one is interested in configuration control information).

SPECIFIC DIRECTORIES AND FILES - OVERVIEW

spec/ : documentation related to User Requirement Specification
cdesign/ : documentation related to Conceptual Design (e.g. database)
design/ : design files, i.e. module descriptions (these are under RCS)
src/ : source files

SPECIFIC DIRECTORIES AND FILES - DETAILED INFORMATION

spec/

PURPOSE:

This directory contains information related to the User Requirement Technical Specification. These files are the basis of further development of the knowledge bases.

FILE DESCRIPTIONS:

constants.txt : list of FPD constants (as in URTS 4.10)
functions.txt : list of FPD functions (as in URTS 4.9)
efp_rules.txt : prototype version of EFP expert system rules
iap_rules.txt : prototype version of IAP expert system rules

EXAMPLE (example of one rule in the *rules.txt files):

```
-------------------------------------------------------------------------
AWY.LNK.min.03                                      ; rule number
                                                    ; comment field
  COMMT the minimum enroute instrument altitude of a link is the
       maximum value of
         - the MOCA,
         - the MRA, and
         - the MHA,
       rounded to the nearest 100ft-increment;
       the MEA shall also be at or above the base of controlled
       airspace (2200ft AGL) [1718]

                                                    ; Nexpert LHS part
  IF   Is      <lnk_min_alt>.mra          KNOWN
       Is      <lnk_min_alt>.mha          KNOWN
       Is      <lnk_min_alt>.oca          KNOWN

                                                    ; Nexpert RHS part
  THEN          <lnk_min_alt>.def
       Do       max( <lnk_min_alt>.mra,
                  <lnk_min_alt>.mha )    <lnk_min_alt>.mea
       Do       max( <lnk_min_alt>.mea,
                  <lnk_min_alt>.oca )    <lnk_min_alt>.mea
       Do       min( <lnk_min_alt>.mea,
                  "bse_ctl_asp")         <lnk_min_alt>.mea
       Execute  "round_nearest"
                <lnk_min_alt>.mea:
                "mea_inc":
                :<lnk_min_alt>.mea_rnd



                                                    ; constants
  CONST         "mea_inc"                  100
-------------------------------------------------------------------------
```

[end of example]

cdesign/

PURPOSE:

This directory is meant for storage of files related to the Conceptual Design.

All information is related to the ADES data tables, and they represent the content of chapter 4 in the Conceptual Design document.

FILE DESCRIPTIONS:

table_def : Table definitions
classes : Database classes
data_sources : Data sources
arinc_ref : References to ARINC
other_ref : Miscellaneous references
multtab_subr : Multi-table subroutines
abbr_acro : Abbreviations and acronyms

design/

PURPOSE:

The module descriptions are stored under this directory.

design/*.mdl

PURPOSE:

The subdirectories of this directory contain the Module Description files, files having extension *.mdl*. They represent the design descriptions developed during the design phase, and function as such as a basis for the implementation phase.

REMARKS:

- All Module Description files are brought under RCS.
- The initial versions are as documented in the Conceptual Design document.

EXAMPLE:

```
/*****************************************************************/
/* $Source: /elvis.disk4/project/tc/design/src/data/RCS/DOM_OBJ_DATA.mdl,v $
/* Checked in by: $Author: schoor $
/* $Date: 90/08/01 15:55:12 $
/* $Revision: 1.0 $
```

```
/* Author of Module: schoor
/*
/* (c) Copyright, Virtual Prototypes Inc., 1990
/*
/* THIS IS PROPRIETARY SOURCE CODE OF VPI.
/* The copyright notice above does not evidence any
/* actual or intended publication of such source code.
/*
/*****************************************************************/

NUMBER                                  ; module number
  0070

MODULE                                  ; module name
  DOM_OBJ_DATA

URTS REFERENCE                              ; ref. to URTS
  3.3

PURPOSE                                 ; purpose of module
  Holds the characteristics of the field value in a design object.

EXPORTED                                ; exported (public) features
  value

INHERITED                               ; inherited features
  -

FEATURES                                ; feature details
  value: ANY_VALUE_TYPE
  -- The value of the object field
  ( ANY_VALUE_TYPE is [ INTEGER, FLOAT, BOOLEAN, TXT_STR ] )

INVARIANTS                              ; invariant conditions
  -

[end of example]
```

src/

PURPOSE:

This is the top-level directory of all the source code. It contains a number of system-wide development files, such as the top-level Make executable and Makefile description file. Application files are located in the subdirectories under this directory.

src/<module_group>/*.h++

PURPOSE:

This is the definition file of a C++ class. This class is written according to the syntax dictated in the AT&T C++ protocol. Knowledge of C++ is therefore recommended in order to be able to read these files. The key structural elements of these files are indicated by the comment boxes in the example.

EXAMPLE:

```
/*************************************************************************/
/* $Source: /elvis.disk4/project/ades/src/data/RCS/dom_design.h++.v $
/* Checked in by: $Author: naud $
/* $Date: 91/11/16 09:15:29 $
/* $Revision: 1.3 $
/* Author of Module: schoor
/*
/* (c) Copyright, Virtual Prototypes Inc., 1991
/*
/* THIS IS PROPRIETARY SOURCE CODE OF VPI.
/* The copyright notice above does not evidence any
/* actual or intended publication of such source code.
/*
/*************************************************************************/

/*************************************************************************/
/* C L A S S   I D E N T I F I C A T I O N                               */
/*                                                                       */
/* Module #: D0030                                                       */
/* Name    : DOM_DESIGN                                                  */
/*                                                                       */
/*************************************************************************/

/*************************************************************************/
/* C L A S S   P U R P O S E                                             */
/*                                                                       */
/*[ Holds all the design domain data.                                   ]*/
/*                                                                       */
/*************************************************************************/

#ifndef DOM_DESIGN_HPP
#define DOM_DESIGN_HPP

/*************************************************************************/
/* I N C L U D E D   F I L E S                                           */
/*************************************************************************/

#include "dom.h++"

/*************************************************************************/
/* L O C A L   C O N S T A N T S                                         */
/*************************************************************************/

/*************************************************************************/
```

```
/* LOCAL MACROS                                          */
/*********************************************************************/

/*********************************************************************/
/* LOCAL DATA STRUCTURES                                 */
/*********************************************************************/

/*********************************************************************/
/* CLASS                                                 */
/*********************************************************************/

class Dom_Design : public Dom {

public:

  /*******************************************************************/
  /* FRIENDS                                               */
  /*******************************************************************/

  /*******************************************************************/
  /* CONSTRUCTORS & DESTRUCTORS                            */
  /*******************************************************************/

  Dom_Design() {}              // Constructor
  ~Dom_Design() {}             // Destructor

  /*******************************************************************/
  /* PUBLIC MEMBERS                                        */
  /*******************************************************************/

  Status load_perm(            // Load the permanent object data from
    Geo_Poly_2d& area          // the data base; returns TRUE if
  );                           // successful;  as opposed to the load
                               // operation in Dom_Fcs, this operation
                               // loads ALL object classes.

  Status search_highest(       // Searches for the highest obstruction
    Dom_Obj_Id& hi_obj_id,     // (man-made or terrain) in the domain.
    Geo_Pos_3d& hi_pos,        // The object id of the highest man-made
    Obs_Type&   hi_obs_type    // obstacle is stored in hi_obj_id, and
  ) const;                     // the posiition is stored in hi_pos.

  Status search_highest(       // Searches for the highest obstruction
    Dom_Obj_Id& hi_obj_id,     // (man-made or terrain) in the given
    Geo_Pos_3d& hi_pos,        // area within the domain.
    Obs_Type&   hi_obs_type,   // The object id of the highest man-made
    Geo_Poly_2d& area          // obstacle is stored in hi_obj_id, and
  ) const;                     // the posiition is stored in hi_pos.

  /*******************************************************************/
  /* OPERATORS                                             */
  /*******************************************************************/
```

```
    /*****************************************************************/
    /* ERROR HANDLING & DEBUGGING                                    */
    /*****************************************************************/

    void dump( char *msg = "", ostream& os = cout,
          unsigned short level = 0, unsigned short spacing = 3,
          Bool deep_dump = TRUE );

    /*****************************************************************/
    /* VIRTUALS                                                      */
    /*****************************************************************/

    /*****************************************************************/
    /* CLASS INVARIANTS                                              */
    /*****************************************************************/

  private:

    /*****************************************************************/
    /* PRIVATE MEMBERS                                               */
    /*****************************************************************/

  };

  /*****************************************************************/
  /* INLINE FUNCTIONS                                              */
  /*****************************************************************/


  #endif       // DOM_DESIGN_HPP

  /************************** END OF FILE **************************/
```

[end of example]

src/<module_group>/*.c++

PURPOSE:

This is the implementation file of a C++ class. This class is written according to the syntax dictated in the AT&T C++ protocol. Knowledge of C++ is therefore recommended in order to be able to read these files. The key structural elements of these files are indicated by the comment boxes in the example.

EXAMPLE:

```
/*****************************************************************/
/* $Source: /elvis.disk4/project/ades/src/data/RCS/dom_design.c++,v $
/* Checked in by: $Author: naud $
/* $Date: 91/11/16 10:56:26 $
/* $Revision: 1.6 $
```

```
/* Author of Module: schoor
/*
/* (c) Copyright, Virtual Prototypes Inc., 1991
/*
/* THIS IS PROPRIETARY SOURCE CODE OF VPI.
/* The copyright notice above does not evidence any
/* actual or intended publication of such source code.
/*
/*****************************************************************/

static char rcs1[] = "$Source: /elvis.disk4/project/ades/src/data/RCS/dom_design.c++,v $";
static char rcs2[] = "$Date: 91/11/16 10:56:26 $ $Revision: 1.6 $";

/*****************************************************************/
/* CLASS IDENTIFICATION                                          */
/*                                                               */
/* Module #: D0030                                               */
/* Name   : DOM_DESIGN                                           */
/*                                                               */
/*****************************************************************/

/*****************************************************************/
/* INCLUDED FILES                                                */
/*****************************************************************/

#include "dom_design.h++"

/*****************************************************************/
/* LOCAL CONSTANTS                                               */
/*****************************************************************/

/*****************************************************************/
/* LOCAL MACROS                                                  */
/*****************************************************************/

/*****************************************************************/
/* LOCAL DATA STRUCTURES                                         */
/*****************************************************************/

/*****************************************************************/
/* CONSTRUCTORS & DESTRUCTORS                                    */
/*****************************************************************/

/*****************************************************************/
/* PUBLIC MEMBERS                                                */
/*****************************************************************/

/*****************************************************************/
/*< load_perm          Loads the permanent object data from     */
/*                  the data base; as opposed to the load      */
/*                  operation in Dom_Design, this function     */
/*                  loads ALL object classes.                >*/
/*                                                             */
```

```
/*  Returned Value: Success status.                                  */
/*********************************************************************/

Status Dom_Design::load_perm( Geo_Poly_2d& area )
{
  return( load_data( area ) );

} // load_perm


/*********************************************************************/
/*< search_highest      Searches for the highest obstruction   */
/*                     (terrain or man-made) in the search    */
/*                     area;  the result is stored in the     */
/*                     "highest_point" variable of the        */
/*                     object "search area".                >*/
/*                                                            */
/*  hi_obj_id   O        object id of obstacle found          */
/*  hi_pos      O      position of highest obstacle           */
/*  hi_obj_type O       obstacle type (man-made or terrain)   */
/*                                                            */
/*  Returned Value: NORMAL or FAILURE                         */
/*********************************************************************/

PUBLIC
Status Dom_Design::search_highest(
  Dom_Obj_Id&  hi_obj_id,
  Geo_Pos_3d&  hi_pos,
  Obs_Type&    hi_obs_type
) const
{
  return search_highest( hi_obj_id, hi_pos, hi_obs_type, coverage );

} /* end search_highest */


/*********************************************************************/
/*< search_highest      Searches for the highest obstruction   */
/*                     (terrain or man-made) in the search    */
/*                     area;  the result is stored in the     */
/*                     "highest_point" variable of the        */
/*                     object "search area".                >*/
/*                                                            */
/*  hi_obj_id   O        object id of obstacle found          */
/*  hi_pos      O      position of highest obstacle           */
/*  hi_obj_type O       obstacle type (man-made or terrain)   */
/*  area        I   area                                      */
/*                                                            */
/*  Returned Value: NORMAL or FAILURE                         */
/*********************************************************************/

PUBLIC
Status Dom_Design::search_highest(
```

```
  Dom_Obj_Id&  hi_obj_id,
  Geo_Pos_3d&  hi_pos,
  Obs_Type&    hi_obs_type,
  Geo_Poly_2d& area
) const
{
  Geo_Pos_3d hi_pos_obs, hi_pos_ter;
  Status status_obs, status_ter;
  float  elev_obs = FLT_MIN, elev_ter = FLT_MIN;

  if ( ( status_obs =
     get_highest_manmade( DBAPP_CLS_OBSTACLE, DBAPP_FLD_OBS_ELEV,
                  hi_obj_id, hi_pos_obs, area ) ) == NORMAL ) {
    elev_obs = hi_pos_obs.get_elev();
  }

  if ( ( status_ter = area.get_highest( &hi_pos_ter ) ) == NORMAL ) {

    elev_ter = hi_pos_ter.get_elev();
  }

  hi_pos = ( elev_obs > elev_ter ) ? hi_pos_obs : hi_pos_ter;
  hi_obs_type = ( elev_obs > elev_ter ) ? OBSTYPE_MANMADE
                        : OBSTYPE_TERRAIN;

  return( ( status_obs == NORMAL || status_ter == NORMAL )
      ? NORMAL : FAILURE );

} // end search_highest


/*****************************************************************/
/* O P E R A T O R S                                             */
/*****************************************************************/

/*****************************************************************/
/* E R R O R   H A N D L I N G   F U N C T I O N S               */
/*****************************************************************/

void Dom_Design::dump( char *msg, ostream& os,
          unsigned short level,
          unsigned short spacing,
          Bool deep_dump )
{
  DUMP_HDR(os,Dom_Design);
  DUMP_VARN(os, nr_of_classes);

  level++;
  if ( deep_dump ) {
    classes.dump( "Classes dump", os, level, spacing );
  }

} // end dump()
```

```
/*************************************************************************/
/* PRIVATE  MEMBERS                                                      */
/*************************************************************************/


/************************** END OF FILE **************************/
[end of example]
```

(OTHER src/*/ DIRECTORIES:)

src/db/

PURPOSE:

This directory is the directory where the ADES data base gets created. The content contains files derived from other database directories.

src/db_access/

PURPOSE:

The files in this directory are used for access of the data base in the form of data entry forms.

FILE DESCRIPTIONS:

*.per : entry form source files;

EXAMPLE (For syntax details, please refer to the INFORMIX-SQL manuals):

```
database ades
screen
{

=============================================================
=======================
                AIRPORT/HELIPORT

=============================================================
=======================
  country_code    [a00]          lat_deg         [f005  ]
  arpt_ident      [f000]         lat_min         [f006  ]
  type_ind        [a]            lat_sec         [f007  ]
  arpt_icao       [a0]           long_dir        [d]
  region_code     [f001  ]       long_deg        [f008  ]
  province_code   [f002  ]       long_min        [f009  ]
  speed_lit_alt_ft [f003 ]       long_sec        [f010  ]
  longest_rwy_ft  [f004  ]       georef          [f011    ]
  ifr_capability  [b]            arpt_elev_ft    [f012  ]
```

```
  lat_dir          [c]

================================================================
======================
  }
  screen
  {


================================================================
======================
                    Airport/Heliport (cont'd)

================================================================
======================
  mag_var_arinc          [f013 ]          mag_var_dir_comp   [o131]
  speed_lit_kt      [f014  ]        mag_var_deg_comp   [o132]
  arpt_name          [f016                    ]
  fir_uir_ident     [f017]          recd_nav          [f015]
  effective_date         [f019      ]      cycle_date        [f018]


================================================================
======================
  }
  end
  tables
  PA_data
  attributes
  a00 = PA_data.country_code,
      comments = "Acceptable values are: CAN (== CANADA) or USA.";
  f000 = PA_data.arpt_ident,
      comments = "The data type of this field is ALPHA/NUMERIC.";
  a = PA_data.type_ind,
      autonext,
      comments = "Acceptable values are: A (== Airport), H (== Heliport), or B (== Both). ",
      include = (A, H, B);
  a0 = PA_data.arpt_icao,
      autonext,
      comments = "The data type of this field is ALPHA/NUMERIC.";
  f001 = PA_data.region_code,
      autonext,
      comments = "Acceptable values are 0 through 7. ",
      include = (0 to 7);
  f002 = PA_data.province_code,
      autonext,
      comments = "Acceptable values are 0 through 12. ",
      include = (0 to 12);
  f003 = PA_data.speed_lit_alt_ft,
      autonext,
      comments = "Acceptable values are 200 through 18000.",
      default = 10000,
```

```
    include = (200 to 18000);
f004 = PA_data.longest_rwy_ft,
    autonext,
    default = 12000,
    comments = "Acceptable values are 500 through 15000.",
    include = (500 to 15000);
b = PA_data.ifr_capability,
    autonext,
    comments = "Enter either Y (== Official IPA published) or N.  ";
c = PA_data.lat_dir,
    autonext,
    upshift,
    comments = "Enter either N or S. ",
    default = N,
    include = (N, S);
f005 = PA_data.lat_deg,
    autonext,
    comments = "Acceptable values are 40 through 90.",
    include = (40 to 90);
f006 = PA_data.lat_min,
    autonext,
    comments = "Acceptable values are 0 through 59. ",
    include = (0 to 59);
f007 = PA_data.lat_sec,
    autonext,
    comments = "Acceptable values are 00.00 through 59.99. ",
    include = (0 to 59.99);
d = PA_data.long_dir,
    autonext,
    upshift,
    default = W,
    comments = "Enter either E or W.  ",
    include = (E, W);
f008 = PA_data.long_deg,
    autonext,
    comments = "Acceptable values are 52 through 141.",
    include = (52 to 141);
f009 = PA_data.long_min,
    autonext,
    comments = "Acceptable values are 0 through 59.",
    include = (0 to 59);
f010 = PA_data.long_sec,
    autonext,
    comments = "Acceptable values are 00.00 through 59.99.",
    include = (0 to 59.99);
f011 = PA_data.georef,
    autonext,
    comments = "The data type of this field is ALPHA/NUMERIC.",
    upshift;
f012 = PA_data.arpt_elev_ft,
    autonext,
    comments = "Acceptable values are -10000 through 10000.",
    include = (-10000 to 10000);
```

```
f013 = PA_data.mag_var_arinc,
    autonext,
    comments = "1st col. == E/W. 2nd - 5th cols. == degs. and 10ths of a deg. without '.'",
    upshift;
f014 = PA_data.speed_lit_kt,
    autonext,
    comments = "Acceptable values are 0 through 250.",
    default = 90,
    include = (0 to 250);
f015 = PA_data.recd_nav,
    autonext,
    comments = "The data type of this field is ALPHA/NUMERIC. ";
f016 = PA_data.arpt_name,
    autonext,
    comments = "The data type of this field is ALPHA/NUMERIC. ";
f017 = PA_data.fir_uir_ident,
    autonext,
    comments = "The data type of this field is ALPHA/NUMERIC. ";
f018 = PA_data.cycle_date,
    autonext,
    comments = "1st & 2nd cols == last 2 digits of year. 3rd & 4th cols == num. id. of cycle.";
f019 = PA_data.effective_date,
    comments = "Acceptable format is mm/dd/yy.",
    default = today,
    format = "mm/dd/yy";
o131 = PA_data.mag_var_dir_comp;
o132 = PA_data.mag_var_deg_comp;
end

[end of example]

*.frm : files generated from them (binary format)

per.to_desc.awk :   Awk file for generating data entry form files for
                    description data tables

src/db_def/

  PURPOSE:

  This directory contains the table definition files.


  FILE DESCRIPTIONS:

  TBL_DATA.sql    :   table specification (fields, types)
  sql.to_desc.awk :   awk file for generating table spec files for
                      description data tables


src/db_load/

  PURPOSE:
```

This directory contains files for loading ARINC data.

FILE DESCRIPTIONS:

ARINC.data : ARINC data file (test sample)
ARINC.spec : top-level specification file

*.fld : files specify the mapping of fields in the individual tables

EXAMPLE (For syntax details, please refer to the INFORMIX-SQL manuals):

```
country_code 2-4
arpt_ident 7-10
arpt_icao 11-12
speed_lit_alt_ft 23-27
longest_rwy_ft 28-30
ifr_capability 31
lat_dir 33
lat_deg 34-35
lat_min 36-37
lat_sec 38-41
long_dir 42
long_deg 43-45
long_min 46-47
long_sec 48-51
georef 33-51
mag_var_dir_comp 33-51
mag_var_deg_comp 33-51
mag_var_arinc 52-56
arpt_elev_ft 57-61
speed_lit_kt 62-64
recd_nav 65-68
arpt_name 94-123
cycle_date  129-132
[end of example]
```

*.ec, *.c, *.h: Supporting C and ESQL/C files.

src/db_menu/

PURPOSE:

This directory contains ADES data base menus

DIRECTORY DESCRIPTIONS

user_menu.dbs/ ADES off-line user menus

src/db_output/

PURPOSE:

This directory contains files for generating ARINC data from ADES data base tables.

FILE DESCRIPTIONS:

*.ace : files are the source report files

EXAMPLE (For syntax details, please refer to the INFORMIX-SQL manuals):

```
database
  ades
end

define
  variable record_num integer
end

output
  report to "arpt.ar"
  left margin 0
  top margin 0
  bottom margin 0
  right margin 0
end

select
    country_code,
    arpt_ident,
    arpt_icao,
    speed_lit_alt_ft,
    longest_rwy_ft,
    ifr_capability,
    lat_dir,
    lat_deg,
    lat_min,
    lat_sec,
    long_dir,
    long_deg,
    long_min,
    long_sec,
    mag_var_arinc,
    arpt_elev_ft,
    speed_lit_kt,
    recd_nav,
    arpt_name,
    cycle_date
from
  pa_data
end
```

```
format
  on every row
    if record_num = 0 then
    let record_num = 1
    print
    column 1, "S" clipped,
    column 2, country_code clipped,
    column 5, "P" clipped,
    column 7, arpt_ident clipped,
    column 11, arpt_icao clipped,
    column 13, "A" clipped,
    column 22, "0" clipped,
    column 23, speed_lit_alt_ft using "&&&&&",
    column 28, longest_rwy_ft using "&&&",
    column 31, ifr_capability clipped,
    column 33, lat_dir clipped,
    column 34, lat_deg using "&&",
    column 36, lat_min using "&&",
    column 38, lat_sec*100 using "&&&&",
    column 42, long_dir clipped,
    column 43, long_deg using "&&&",
    column 46, long_min using "&&",
    column 48, long_sec*100 using "&&&&",
    column 52, mag_var_arinc clipped,
    column 57, arpt_elev_ft using "&&&&&",
    column 62, speed_lit_kt using "&&&",
    column 65, recd_nav clipped,
{   column 69, fix.icao_code clipped, }
    column 94, arpt_name clipped,
    column 124, record_num using "&&&&&",
    column 129, cycle_date using "&&&&"
    let record_num = record_num + 1
end
[end of example]

*.arc     :  files that are generated from the *.ace files (binary).
unload.ec :  The unload program (written in INFORMIX ESQL/C)


src/test/

  PURPOSE:

  This directory does not contain ADES source code.  It is strictly reserved
  for testing purposes.
```

This is a listing of the ADES software system:

```
rwxrwxr-x 201/405 dir     Oct 26 10:35 1991 spec/
rw-rw-r-- 201/405     400 Oct 10 18:26 1990 spec/README
r--r--r-- 201/405   24322 Oct 18 09:39 1989 spec/constants.txt
r--r--r-- 201/405  130630 Sep 29 16:16 1989 spec/efp_rules.txt
r--r--r-- 201/405    8829 Oct 18 09:39 1989 spec/functions.txt
r--r--r-- 201/405  131713 Sep 29 16:16 1989 spec/iap_rules.txt
r--r--r-- 170/405    8829 Sep 25 11:04 1991 spec/vi_backup
rwxrwxr-x 201/405 dir     Oct 26 10:36 1991 cdesign/
rw-rw-r-- 140/405     454 Oct 10 18:19 1990 cdesign/README
rwxrwxr-x 140/405 dir     Oct 26 10:36 1991 cdesign/doc/
rwxrwxr-x 201/405 dir     Oct 26 10:36 1991 cdesign/doc/database/
rwxrwxr-x 201/405 dir     Oct 26 10:36 1991 cdesign/doc/database/OLD/
rw-rw-r-- 140/405  124770 Jul  9 15:33 1990 cdesign/doc/database/OLD/design
rw-rw-r-- 201/405    9153 Jul  9 15:32 1990 cdesign/doc/database/abbr_acro
rw-rw-r-- 201/405   13079 Jul  9 15:48 1990 cdesign/doc/database/arinc_ref
rw-rw-r-- 201/405    2371 Jul  9 15:32 1990 cdesign/doc/database/classes
rw-rw-r-- 201/405   13032 Jul  9 15:32 1990 cdesign/doc/database/data_sources
rw-rw-r-- 201/405    7426 Jul  9 15:51 1990 cdesign/doc/database/multtab_subr
rw-rw-r-- 201/405    4007 Jul  9 15:47 1990 cdesign/doc/database/other_ref
rw-rw-r-- 201/405   53409 Jul  9 15:32 1990 cdesign/doc/database/table_def
rwxrwxr-x 201/405 dir     Oct 26 10:38 1991 design/
rw-rw-r-- 201/405     800 Oct 10 18:20 1990 design/README
rwxrwxr-x 201/405 dir     Oct 26 10:38 1991 design/src/
rwxrwxrwx 140/405     598 Oct 10 23:10 1990 design/src/Make
r--r--r-- 140/405    1208 Aug  1 16:01 1990 design/src/Makefile
rwxrwxr-x 140/405 dir     Oct 26 10:38 1991 design/src/RCS/
r--r--r-- 140/405    1410 Aug  1 16:01 1990 design/src/RCS/Makefile,v
r--r--r-- 140/405     788 Aug  1 12:35 1990 design/src/RCS/makemdl,v
rwxrwxr-x 140/405 dir     Oct 26 10:37 1991 design/src/data/
r--r--r-- 140/405     895 Aug  1 16:02 1990 design/src/data/AIRAC_NOTAM.mdl
r--r--r-- 201/405    1388 Oct 10 23:11 1990 design/src/data/DOM.mdl
r--r--r-- 140/405    3919 Aug  1 16:02 1990 design/src/data/DOM_CLASS.mdl
r--r--r-- 140/405    2286 Aug  1 16:02 1990 design/src/data/DOM_CLASS_FLD.mdl
r--r--r-- 140/405    1875 Aug  1 16:02 1990 design/src/data/DOM_DESIGN.mdl
r--r--r-- 140/405    1455 Aug  1 16:02 1990 design/src/data/DOM_FCS.mdl
r--r--r-- 140/405    1868 Aug  1 16:02 1990 design/src/data/DOM_OBJ.mdl
r--r--r-- 140/405     857 Aug  1 16:02 1990 design/src/data/DOM_OBJ_DATA.mdl
r--r--r-- 140/405    1441 Aug  1 16:02 1990 design/src/data/DOM_REPORT.mdl
r--r--r-- 140/405    1061 Aug  1 16:02 1990 design/src/data/DOM_REP_DESIGN.mdl
r--r--r-- 140/405     967 Aug  1 16:02 1990 design/src/data/DOM_REP_TEMP.mdl
r--r--r-- 140/405     963 Aug  1 16:02 1990 design/src/data/DOM_REP_TRACE.mdl
r--r--r-- 140/405     924 Aug  1 16:02 1990 design/src/data/DOM_SUMMARY.mdl
r--r--r-- 140/405     746 Aug  1 16:02 1990 design/src/data/EDIT_AREA_PARA.mdl
r--r--r-- 140/405    1081 Aug  1 16:02 1990 design/src/data/EDIT_KEYB_PARA.mdl
r--r--r-- 140/405     852 Aug  1 16:02 1990 design/src/data/EDIT_MULT_PARA.mdl
r--r--r-- 140/405    1058 Aug  1 16:02 1990 design/src/data/EDIT_PARA.mdl
r--r--r-- 140/405    1243 Aug  1 16:02 1990 design/src/data/EDIT_SLID_PARA.mdl
r--r--r-- 140/405    1393 Aug  1 16:02 1990 design/src/data/ENVIRONMENT.mdl
r--r--r-- 140/405    1071 Aug  1 16:02 1990 design/src/data/FP_DESCRIPTION.mdl
r--r--r-- 140/405    1135 Aug  1 12:37 1990 design/src/data/Makefile
r--r--r-- 140/405    1439 Aug  1 16:02 1990 design/src/data/OBJ_FORM.mdl
r--r--r-- 140/405    1182 Aug  1 16:02 1990 design/src/data/OBJ_LIST.mdl
r--r--r-- 140/405     915 Aug  1 16:02 1990 design/src/data/OBJ_LIST_ELEM.mdl
```

```
r--r--r-- 140/405    1389 Aug  1 16:02 1990 design/src/data/OBJ_LIST_PARA.mdl
rwxrwxr-x 140/405 dir     Oct 26 10:37 1991 design/src/data/RCS/
r--r--r-- 140/405     997 Aug  1 15:55 1990 design/src/data/RCS/AIRAC_NOTAM.mdl,v
r--r--r-- 140/405    2094 Oct 10 23:08 1990 design/src/data/RCS/DOM.mdl,v
r--r--r-- 140/405    4023 Aug  1 15:55 1990 design/src/data/RCS/DOM_CLASS.mdl,v
r--r--r-- 140/405    2386 Aug  1 15:55 1990 design/src/data/RCS/DOM_CLASS_FLD.mdl,v
r--r--r-- 140/405    1978 Aug  1 15:55 1990 design/src/data/RCS/DOM_DESIGN.mdl,v
r--r--r-- 140/405    1561 Aug  1 15:55 1990 design/src/data/RCS/DOM_FCS.mdl,v
r--r--r-- 140/405    1974 Aug  1 15:55 1990 design/src/data/RCS/DOM_OBJ.mdl,v
r--r--r-- 140/405     958 Aug  1 15:55 1990 design/src/data/RCS/DOM_OBJ_DATA.mdl,v
r--r--r-- 140/405    1544 Aug  1 15:55 1990 design/src/data/RCS/DOM_REPORT.mdl,v
r--r--r-- 140/405    1160 Aug  1 15:55 1990 design/src/data/RCS/DOM_REP_DESIGN.mdl,v
r--r--r-- 140/405    1068 Aug  1 15:55 1990 design/src/data/RCS/DOM_REP_TEMP.mdl,v
r--r--r-- 140/405    1063 Aug  1 15:55 1990 design/src/data/RCS/DOM_REP_TRACE.mdl,v
r--r--r-- 140/405    1026 Aug  1 15:55 1990 design/src/data/RCS/DOM_SUMMARY.mdl,v
r--r--r-- 140/405     845 Aug  1 15:55 1990 design/src/data/RCS/EDIT_AREA_PARA.mdl,v
r--r--r-- 140/405    1180 Aug  1 15:55 1990 design/src/data/RCS/EDIT_KEYB_PARA.mdl,v
r--r--r-- 140/405     951 Aug  1 15:55 1990 design/src/data/RCS/EDIT_MULT_PARA.mdl,v
r--r--r-- 140/405    1162 Aug  1 15:55 1990 design/src/data/RCS/EDIT_PARA.mdl,v
r--r--r-- 140/405    1342 Aug  1 15:55 1990 design/src/data/RCS/EDIT_SLID_PARA.mdl,v
r--r--r-- 140/405    1495 Aug  1 15:55 1990 design/src/data/RCS/ENVIRONMENT.mdl,v
r--r--r-- 140/405    1170 Aug  1 15:55 1990 design/src/data/RCS/FP_DESCRIPTION.mdl,v
r--r--r-- 140/405    1246 Aug  1 12:37 1990 design/src/data/RCS/Makefile,v
r--r--r-- 140/405    1544 Aug  1 15:55 1990 design/src/data/RCS/OBJ_FORM.mdl,v
r--r--r-- 140/405    1287 Aug  1 15:55 1990 design/src/data/RCS/OBJ_LIST.mdl,v
r--r--r-- 140/405    1015 Aug  1 15:55 1990 design/src/data/RCS/OBJ_LIST_ELEM.mdl,v
r--r--r-- 140/405    1489 Aug  1 15:55 1990 design/src/data/RCS/OBJ_LIST_PARA.mdl,v
r--r--r-- 140/405    1234 Aug  1 15:55 1990 design/src/data/RCS/VERSION.mdl,v
r--r--r-- 140/405    1028 Aug  1 15:54 1990 design/src/data/RCS/mdl.dir,v
r--r--r-- 140/405    1128 Aug  1 16:02 1990 design/src/data/VERSION.mdl
rw-rw-r-- 140/405    3927 Nov 15 11:22 1990 design/src/data/matrix.D
r--r--r-- 140/405     918 Aug  1 16:02 1990 design/src/data/mdl.dir
rw-rw-r-- 140/405   37348 Nov 15 11:22 1990 design/src/data/x
rwxrwxr-x 140/405 dir     Oct 26 10:38 1991 design/src/fpd/
r--r--r-- 140/405    1681 Aug  1 13:44 1990 design/src/fpd/ALERT_HNDLR.mdl
r--r--r-- 140/405     942 Aug  1 13:43 1990 design/src/fpd/APP_SEG.mdl
r--r--r-- 140/405    1335 Aug  1 13:44 1990 design/src/fpd/EXECUTE_HNDLR.mdl
r--r--r-- 140/405    1113 Aug  1 13:43 1990 design/src/fpd/FPD_2D_POS.mdl
r--r--r-- 140/405    1065 Aug  1 13:43 1990 design/src/fpd/FPD_2D_QAD.mdl
r--r--r-- 140/405    1081 Aug  1 13:43 1990 design/src/fpd/FPD_2D_TPZ.mdl
r--r--r-- 140/405    1065 Aug  1 13:43 1990 design/src/fpd/FPD_3D_QAD.mdl
r--r--r-- 140/405    1119 Aug  1 13:43 1990 design/src/fpd/FPD_3D_TPZ.mdl
r--r--r-- 140/405    1863 Aug  1 13:43 1990 design/src/fpd/FPD_ARA.mdl
r--r--r-- 140/405    1056 Aug  1 13:43 1990 design/src/fpd/FPD_ARC.mdl
r--r--r-- 140/405    1113 Aug  1 13:43 1990 design/src/fpd/FPD_BRG.mdl
r--r--r-- 140/405    1190 Aug  1 13:44 1990 design/src/fpd/FPD_DATA.mdl
r--r--r-- 140/405    1794 Aug  1 13:44 1990 design/src/fpd/FPD_EXPL.mdl
r--r--r-- 140/405    1998 Aug  1 13:43 1990 design/src/fpd/FPD_PARAM.mdl
r--r--r-- 140/405    1202 Aug  1 13:43 1990 design/src/fpd/FPD_RDL.mdl
r--r--r-- 140/405    1488 Aug  1 13:44 1990 design/src/fpd/FPD_REQUEST.mdl
r--r--r-- 140/405     977 Aug  1 13:44 1990 design/src/fpd/FPD_REQ_MAPPING.mdl
r--r--r-- 140/405    1014 Aug  1 13:44 1990 design/src/fpd/FPD_REQ_TABLE.mdl
r--r--r-- 140/405    1076 Aug  1 13:44 1990 design/src/fpd/FPD_SCT.mdl
```

```
r--r--r-- 140/405    1161 Aug  1 13:39 1990 design/src/fpd/Makefile
r--r--r-- 140/405    1997 Aug  1 13:44 1990 design/src/fpd/NOTIFY_HNDLR.mdl
r--r--r-- 140/405    2563 Aug  1 13:44 1990 design/src/fpd/NX_ATOM.mdl
r--r--r-- 140/405    1178 Aug  1 13:44 1990 design/src/fpd/NX_DATUM.mdl
r--r--r-- 140/405    1172 Aug  1 13:44 1990 design/src/fpd/NX_HYPO.mdl
r--r--r-- 140/405    1107 Aug  1 13:44 1990 design/src/fpd/NX_OBJECT.mdl
r--r--r-- 140/405    1153 Aug  1 13:44 1990 design/src/fpd/NX_RULE.mdl
r--r--r-- 140/405     954 Aug  1 13:44 1990 design/src/fpd/NX_STIMULUS.mdl
r--r--r-- 140/405    1260 Aug  1 13:44 1990 design/src/fpd/POLLING_HNDLR.mdl
r--r--r-- 140/405    1293 Aug  1 13:44 1990 design/src/fpd/QUESTION_HNDLR.mdl
rwxrwxr-x 140/405 dir     Oct 26 10:38 1991 design/src/fpd/RCS/
r--r--r-- 140/405    1875 Aug  1 13:42 1990 design/src/fpd/RCS/ALERT_HNDLR.mdl,v
r--r--r-- 140/405    1136 Aug  1 13:42 1990 design/src/fpd/RCS/APP_SEG.mdl,v
r--r--r-- 140/405    1529 Aug  1 13:42 1990 design/src/fpd/RCS/EXECUTE_HNDLR.mdl,v
r--r--r-- 140/405    1307 Aug  1 13:42 1990 design/src/fpd/RCS/FPD_2D_POS.mdl,v
r--r--r-- 140/405    1259 Aug  1 13:42 1990 design/src/fpd/RCS/FPD_2D_QAD.mdl,v
r--r--r-- 140/405    1275 Aug  1 13:42 1990 design/src/fpd/RCS/FPD_2D_TPZ.mdl,v
r--r--r-- 140/405    1259 Aug  1 13:42 1990 design/src/fpd/RCS/FPD_3D_QAD.mdl,v
r--r--r-- 140/405    1313 Aug  1 13:42 1990 design/src/fpd/RCS/FPD_3D_TPZ.mdl,v
r--r--r-- 140/405    2057 Aug  1 13:43 1990 design/src/fpd/RCS/FPD_ARA.mdl,v
r--r--r-- 140/405    1250 Aug  1 13:43 1990 design/src/fpd/RCS/FPD_ARC.mdl,v
r--r--r-- 140/405    1307 Aug  1 13:43 1990 design/src/fpd/RCS/FPD_BRG.mdl,v
r--r--r-- 140/405    1384 Aug  1 13:43 1990 design/src/fpd/RCS/FPD_DATA.mdl,v
r--r--r-- 140/405    1988 Aug  1 13:43 1990 design/src/fpd/RCS/FPD_EXPL.mdl,v
r--r--r-- 140/405    2192 Aug  1 13:43 1990 design/src/fpd/RCS/FPD_PARAM.mdl,v
r--r--r-- 140/405    1396 Aug  1 13:43 1990 design/src/fpd/RCS/FPD_RDL.mdl,v
r--r--r-- 140/405    1682 Aug  1 13:43 1990 design/src/fpd/RCS/FPD_REQUEST.mdl,v
r--r--r-- 140/405    1171 Aug  1 13:43 1990 design/src/fpd/RCS/FPD_REQ_MAPPING.mdl,v
r--r--r-- 140/405    1208 Aug  1 13:43 1990 design/src/fpd/RCS/FPD_REQ_TABLE.mdl,v
r--r--r-- 140/405    1270 Aug  1 13:43 1990 design/src/fpd/RCS/FPD_SCT.mdl,v
r--r--r-- 140/405    1361 Aug  1 13:39 1990 design/src/fpd/RCS/Makefile,v
r--r--r-- 140/405    2191 Aug  1 13:43 1990 design/src/fpd/RCS/NOTIFY_HNDLR.mdl,v
r--r--r-- 140/405    2757 Aug  1 13:43 1990 design/src/fpd/RCS/NX_ATOM.mdl,v
r--r--r-- 140/405    1372 Aug  1 13:43 1990 design/src/fpd/RCS/NX_DATUM.mdl,v
r--r--r-- 140/405    1366 Aug  1 13:43 1990 design/src/fpd/RCS/NX_HYPO.mdl,v
r--r--r-- 140/405    1301 Aug  1 13:43 1990 design/src/fpd/RCS/NX_OBJECT.mdl,v
r--r--r-- 140/405    1347 Aug  1 13:43 1990 design/src/fpd/RCS/NX_RULE.mdl,v
r--r--r-- 140/405    1148 Aug  1 13:43 1990 design/src/fpd/RCS/NX_STIMULUS.mdl,v
r--r--r-- 140/405    1454 Aug  1 13:43 1990 design/src/fpd/RCS/POLLING_HNDLR.mdl,v
r--r--r-- 140/405    1487 Aug  1 13:43 1990 design/src/fpd/RCS/QUESTION_HNDLR.mdl,v
r--r--r-- 140/405    1123 Aug  1 13:43 1990 design/src/fpd/RCS/mdl.dir,v
rw-rw-r-- 140/405    4389 Nov 15 11:25 1990 design/src/fpd/matrix.F
r--r--r-- 140/405     929 Aug  1 13:43 1990 design/src/fpd/mdl.dir
rw-rw-r-- 140/405   41266 Nov 15 11:25 1990 design/src/fpd/x
rwxrwxr-x 140/405 dir     Oct 26 10:38 1991 design/src/fpd_db/
r--r--r-- 140/405     865 Aug  1 16:02 1990 design/src/fpd_db/Makefile
rwxrwxr-x 140/405 dir     Oct 26 10:38 1991 design/src/fpd_db/RCS/
r--r--r-- 140/405    1058 Aug  1 13:46 1990 design/src/fpd_db/RCS/Makefile,v
r--r--r-- 140/405    1419 Aug  1 15:29 1990 design/src/fpd_db/RCS/TRC_COND_TEST.mdl,v
r--r--r-- 140/405    1577 Aug  1 15:29 1990 design/src/fpd_db/RCS/TRC_DATA_BASE.mdl,v
r--r--r-- 140/405    1400 Aug  1 15:29 1990 design/src/fpd_db/RCS/TRC_DATA_INST.mdl,v
r--r--r-- 140/405    1379 Aug  1 15:29 1990 design/src/fpd_db/RCS/TRC_DATA_UPDT.mdl,v
r--r--r-- 140/405    1392 Aug  1 15:29 1990 design/src/fpd_db/RCS/TRC_DATA_VOLUN.mdl,v
```

```
r--r--r-- 140/405    1354 Aug  1 15:29 1990 design/src/fpd_db/RCS/TRC_HYPO_SUGG.mdl,v
r--r--r-- 140/405    1390 Aug  1 15:29 1990 design/src/fpd_db/RCS/TRC_HYPO_UPDT.mdl,v
r--r--r-- 140/405    1726 Aug  1 15:29 1990 design/src/fpd_db/RCS/TRC_ITEM.mdl,v
r--r--r-- 140/405    1422 Aug  1 15:29 1990 design/src/fpd_db/RCS/TRC_OBJ_CREAT.mdl,v
r--r--r-- 140/405    1356 Aug  1 15:29 1990 design/src/fpd_db/RCS/TRC_RULE_UPDT.mdl,v
r--r--r-- 140/405    1381 Aug  1 15:29 1990 design/src/fpd_db/RCS/TRC_STGY_UPDT.mdl,v
r--r--r-- 140/405     826 Aug  1 13:47 1990 design/src/fpd_db/RCS/mdl.dir,v
r--r--r-- 140/405    1321 Aug  1 16:06 1990 design/src/fpd_db/TRC_COND_TEST.mdl
r--r--r-- 140/405    1479 Aug  1 16:06 1990 design/src/fpd_db/TRC_DATA_BASE.mdl
r--r--r-- 140/405    1302 Aug  1 16:06 1990 design/src/fpd_db/TRC_DATA_INST.mdl
r--r--r-- 140/405    1281 Aug  1 16:06 1990 design/src/fpd_db/TRC_DATA_UPDT.mdl
r--r--r-- 140/405    1295 Aug  1 16:06 1990 design/src/fpd_db/TRC_DATA_VOLUN.mdl
r--r--r-- 140/405    1256 Aug  1 16:06 1990 design/src/fpd_db/TRC_HYPO_SUGG.mdl
r--r--r-- 140/405    1292 Aug  1 16:06 1990 design/src/fpd_db/TRC_HYPO_UPDT.mdl
r--r--r-- 140/405    1623 Aug  1 16:06 1990 design/src/fpd_db/TRC_ITEM.mdl
r--r--r-- 140/405    1324 Aug  1 16:06 1990 design/src/fpd_db/TRC_OBJ_CREAT.mdl
r--r--r-- 140/405    1258 Aug  1 16:06 1990 design/src/fpd_db/TRC_RULE_UPDT.mdl
r--r--r-- 140/405    1283 Aug  1 16:06 1990 design/src/fpd_db/TRC_STGY_UPDT.mdl
rw-rw-r-- 140/405    2618 Nov 15 11:26 1990 design/src/fpd_db/matrix.FD
r--r--r-- 140/405     718 Aug  1 16:06 1990 design/src/fpd_db/mdl.dir
rw-rw-r-- 140/405   17343 Nov 15 11:26 1990 design/src/fpd_db/x
rwxrwxr-x 140/405 dir     Oct 26 10:38 1991 design/src/grph/
r--r--r-- 140/405     904 Aug  1 16:02 1990 design/src/grph/2D_3D_CORREL.mdl
r--r--r-- 140/405    1420 Aug  1 16:02 1990 design/src/grph/2D_CLASS.mdl
r--r--r-- 140/405    1289 Aug  1 16:02 1990 design/src/grph/2D_CONTOURS.mdl
r--r--r-- 140/405     964 Aug  1 16:02 1990 design/src/grph/2D_CURSOR.mdl
r--r--r-- 140/405    2649 Aug  1 16:02 1990 design/src/grph/2D_GEO_CLASS.mdl
r--r--r-- 140/405     937 Aug  1 16:02 1990 design/src/grph/2D_GEO_OBJ.mdl
r--r--r-- 140/405    1076 Aug  1 16:02 1990 design/src/grph/2D_GRID.mdl
r--r--r-- 140/405    1544 Aug  1 16:02 1990 design/src/grph/2D_OBJ.mdl
r--r--r-- 140/405    2359 Aug  1 16:02 1990 design/src/grph/2D_OBJECTS.mdl
r--r--r-- 140/405    3099 Aug  1 16:02 1990 design/src/grph/2D_OBJ_LABEL.mdl
r--r--r-- 140/405    3321 Aug  1 16:02 1990 design/src/grph/2D_PLAN.mdl
r--r--r-- 140/405     833 Aug  1 16:02 1990 design/src/grph/2D_PRF_CORREL.mdl
r--r--r-- 140/405    1482 Aug  1 16:02 1990 design/src/grph/2D_SYM_CLASS.mdl
r--r--r-- 140/405    1182 Aug  1 16:02 1990 design/src/grph/2D_SYM_OBJ.mdl
r--r--r-- 140/405     912 Aug  1 16:02 1990 design/src/grph/2D_VIEWPOINT.mdl
r--r--r-- 140/405    1420 Aug  1 16:02 1990 design/src/grph/3D_CLASS.mdl
r--r--r-- 140/405    3076 Aug  1 16:02 1990 design/src/grph/3D_GEO_CLASS.mdl
r--r--r-- 140/405     923 Aug  1 16:02 1990 design/src/grph/3D_GEO_OBJ.mdl
r--r--r-- 140/405     873 Aug  1 16:02 1990 design/src/grph/3D_HUD.mdl
r--r--r-- 140/405    1263 Aug  1 16:02 1990 design/src/grph/3D_OBJ.mdl
r--r--r-- 140/405    1789 Aug  1 16:02 1990 design/src/grph/3D_OBJECTS.mdl
r--r--r-- 140/405    1986 Aug  1 16:02 1990 design/src/grph/3D_PERSPECT.mdl
r--r--r-- 140/405    1483 Aug  1 16:02 1990 design/src/grph/3D_SYM_CLASS.mdl
r--r--r-- 140/405    1181 Aug  1 16:02 1990 design/src/grph/3D_SYM_OBJ.mdl
r--r--r-- 140/405    1150 Aug  1 16:02 1990 design/src/grph/3D_TERRAIN.mdl
r--r--r-- 140/405     934 Aug  1 16:02 1990 design/src/grph/3D_VIEWPOINT.mdl
r--r--r-- 140/405    1880 Aug  1 16:02 1990 design/src/grph/CHART.mdl
r--r--r-- 140/405    1348 Aug  1 16:02 1990 design/src/grph/CHT_APP_PLATE.mdl
r--r--r-- 140/405     935 Aug  1 16:02 1990 design/src/grph/CHT_COMMUNIC.mdl
r--r--r-- 140/405     952 Aug  1 16:02 1990 design/src/grph/CHT_ENRT_FAC.mdl
r--r--r-- 140/405    1013 Aug  1 16:03 1990 design/src/grph/CHT_FIX.mdl
```

```
-r--r--r-- 140/405   829 Aug  1 16:02 1990 design/src/grph/CHT_FRAME.mdl
-r--r--r-- 140/405   974 Aug  1 16:03 1990 design/src/grph/CHT_HIGH_SPOT.mdl
-r--r--r-- 140/405  1051 Aug  1 16:02 1990 design/src/grph/CHT_ID_DATA.mdl
-r--r--r-- 140/405  1072 Aug  1 16:03 1990 design/src/grph/CHT_LABEL.mdl
-r--r--r-- 140/405  1036 Aug  1 16:03 1990 design/src/grph/CHT_LINE.mdl
-r--r--r-- 140/405   801 Aug  1 16:02 1990 design/src/grph/CHT_MSA_AREA.mdl
-r--r--r-- 140/405   881 Aug  1 16:02 1990 design/src/grph/CHT_MSA_FIX.mdl
-r--r--r-- 140/405  1179 Aug  1 16:02 1990 design/src/grph/CHT_MSA_SECT.mdl
-r--r--r-- 140/405   919 Aug  1 16:02 1990 design/src/grph/CHT_MSA_SECT1.mdl
-r--r--r-- 140/405   866 Aug  1 16:03 1990 design/src/grph/CHT_NAVAID.mdl
-r--r--r-- 140/405   927 Aug  1 16:03 1990 design/src/grph/CHT_OPER_MIN.mdl
-r--r--r-- 140/405  1224 Aug  1 16:03 1990 design/src/grph/CHT_OPER_MIN1.mdl
-r--r--r-- 140/405  1356 Aug  1 16:02 1990 design/src/grph/CHT_PLAN_VIEW.mdl
-r--r--r-- 140/405   877 Aug  1 16:03 1990 design/src/grph/CHT_POLY.mdl
-r--r--r-- 140/405   895 Aug  1 16:03 1990 design/src/grph/CHT_POS.mdl
-r--r--r-- 140/405   976 Aug  1 16:03 1990 design/src/grph/CHT_PRF_FIX.mdl
-r--r--r-- 140/405   824 Aug  1 16:03 1990 design/src/grph/CHT_PRF_MAPP.mdl
-r--r--r-- 140/405   968 Aug  1 16:03 1990 design/src/grph/CHT_PRF_MNALT.mdl
-r--r--r-- 140/405   960 Aug  1 16:03 1990 design/src/grph/CHT_PRF_NAV.mdl
-r--r--r-- 140/405   925 Aug  1 16:03 1990 design/src/grph/CHT_PRF_POS.mdl
-r--r--r-- 140/405   898 Aug  1 16:03 1990 design/src/grph/CHT_PRF_RWY.mdl
-r--r--r-- 140/405   948 Aug  1 16:03 1990 design/src/grph/CHT_PRF_RWYTH.mdl
-r--r--r-- 140/405  1126 Aug  1 16:03 1990 design/src/grph/CHT_PRF_TRCK.mdl
-r--r--r-- 140/405  1476 Aug  1 16:02 1990 design/src/grph/CHT_PROFILE.mdl
-r--r--r-- 140/405  1075 Aug  1 16:03 1990 design/src/grph/CHT_PT.mdl
-r--r--r-- 140/405   974 Aug  1 16:03 1990 design/src/grph/CHT_RADIAL.mdl
-r--r--r-- 140/405  1013 Aug  1 16:03 1990 design/src/grph/CHT_REST_ASPC.mdl
-r--r--r-- 140/405  1141 Aug  1 16:03 1990 design/src/grph/CHT_RING.mdl
-r--r--r-- 140/405   834 Aug  1 16:03 1990 design/src/grph/CHT_RWY.mdl
-r--r--r-- 140/405   893 Aug  1 16:03 1990 design/src/grph/CHT_SYM.mdl
-r--r--r-- 140/405   876 Aug  1 16:03 1990 design/src/grph/CHT_TXT_BLK.mdl
-r--r--r-- 140/405  1160 Aug  1 16:02 1990 design/src/grph/FCS_OVERVIEW.mdl
-r--r--r-- 140/405  1161 Aug  1 16:02 1990 design/src/grph/FCS_PREVIEW.mdl
-r--r--r-- 140/405  1788 Aug  1 16:03 1990 design/src/grph/FLYTHROUGH.mdl
-r--r--r-- 140/405  1080 Aug  1 16:03 1990 design/src/grph/FLYTHR_CUSTOM.mdl
-r--r--r-- 140/405  1206 Aug  1 16:03 1990 design/src/grph/FLYTHR_PATH.mdl
-r--r--r-- 140/405  1429 Aug  1 16:03 1990 design/src/grph/FLYTHR_PROCED.mdl
-r--r--r-- 140/405  1777 Aug  1 16:03 1990 design/src/grph/MAP_VIEW_PARA.mdl
-r--r--r-- 140/405  2318 Aug  1 16:02 1990 design/src/grph/Makefile
-r--r--r-- 140/405  1012 Aug  1 16:02 1990 design/src/grph/PRF_AREA.mdl
-r--r--r-- 140/405  1386 Aug  1 16:02 1990 design/src/grph/PRF_CLASS.mdl
-r--r--r-- 140/405  1064 Aug  1 16:02 1990 design/src/grph/PRF_CURSOR.mdl
-r--r--r-- 140/405  1346 Aug  1 16:02 1990 design/src/grph/PRF_DIMENS.mdl
-r--r--r-- 140/405  1495 Aug  1 16:02 1990 design/src/grph/PRF_GEO_CLASS.mdl
-r--r--r-- 140/405   950 Aug  1 16:02 1990 design/src/grph/PRF_GEO_OBJ.mdl
-r--r--r-- 140/405  1008 Aug  1 16:02 1990 design/src/grph/PRF_LINE.mdl
-r--r--r-- 140/405  1279 Aug  1 16:02 1990 design/src/grph/PRF_OBJ.mdl
-r--r--r-- 140/405  2162 Aug  1 16:02 1990 design/src/grph/PRF_OBJECTS.mdl
-r--r--r-- 140/405   897 Aug  1 16:02 1990 design/src/grph/PRF_POS.mdl
-r--r--r-- 140/405  1493 Aug  1 16:02 1990 design/src/grph/PRF_SYM_CLASS.mdl
-r--r--r-- 140/405  1186 Aug  1 16:02 1990 design/src/grph/PRF_SYM_OBJ.mdl
-r--r--r-- 140/405  1042 Aug  1 16:02 1990 design/src/grph/PRF_TERRAIN.mdl
-r--r--r-- 140/405   912 Aug  1 16:02 1990 design/src/grph/PRF_TRACKS.mdl
```

```
r--r--r-- 140/405    2466 Aug  1 16:02 1990 design/src/grph/PROFILE.mdl
rwxrwxr-x 140/405 dir     Oct 26 10:38 1991 design/src/grph/RCS/
r--r--r-- 140/405    1005 Aug  1 14:16 1990 design/src/grph/RCS/2D_3D_CORREL.mdl,v
r--r--r-- 140/405    1525 Aug  1 14:16 1990 design/src/grph/RCS/2D_CLASS.mdl,v
r--r--r-- 140/405    1391 Aug  1 14:16 1990 design/src/grph/RCS/2D_CONTOURS.mdl,v
r--r--r-- 140/405    1068 Aug  1 14:16 1990 design/src/grph/RCS/2D_CURSOR.mdl,v
r--r--r-- 140/405    2750 Aug  1 14:16 1990 design/src/grph/RCS/2D_GEO_CLASS.mdl,v
r--r--r-- 140/405    1040 Aug  1 14:16 1990 design/src/grph/RCS/2D_GEO_OBJ.mdl,v
r--r--r-- 140/405    1182 Aug  1 14:16 1990 design/src/grph/RCS/2D_GRID.mdl,v
r--r--r-- 140/405    1651 Aug  1 14:16 1990 design/src/grph/RCS/2D_OBJ.mdl,v
r--r--r-- 140/405    2462 Aug  1 14:16 1990 design/src/grph/RCS/2D_OBJECTS.mdl,v
r--r--r-- 140/405    3200 Aug  1 14:16 1990 design/src/grph/RCS/2D_OBJ_LABEL.mdl,v
r--r--r-- 140/405    3427 Aug  1 14:16 1990 design/src/grph/RCS/2D_PLAN.mdl,v
r--r--r-- 140/405     933 Aug  1 14:16 1990 design/src/grph/RCS/2D_PRF_CORREL.mdl,v
r--r--r-- 140/405    1583 Aug  1 14:16 1990 design/src/grph/RCS/2D_SYM_CLASS.mdl,v
r--r--r-- 140/405    1285 Aug  1 14:16 1990 design/src/grph/RCS/2D_SYM_OBJ.mdl,v
r--r--r-- 140/405    1013 Aug  1 14:16 1990 design/src/grph/RCS/2D_VIEWPOINT.mdl,v
r--r--r-- 140/405    1525 Aug  1 14:16 1990 design/src/grph/RCS/3D_CLASS.mdl,v
r--r--r-- 140/405    3177 Aug  1 14:17 1990 design/src/grph/RCS/3D_GEO_CLASS.mdl,v
r--r--r-- 140/405    1026 Aug  1 14:17 1990 design/src/grph/RCS/3D_GEO_OBJ.mdl,v
r--r--r-- 140/405     980 Aug  1 14:17 1990 design/src/grph/RCS/3D_HUD.mdl,v
r--r--r-- 140/405    1370 Aug  1 14:17 1990 design/src/grph/RCS/3D_OBJ.mdl,v
r--r--r-- 140/405    1892 Aug  1 14:17 1990 design/src/grph/RCS/3D_OBJECTS.mdl,v
r--r--r-- 140/405    2088 Aug  1 14:17 1990 design/src/grph/RCS/3D_PERSPECT.mdl,v
r--r--r-- 140/405    1584 Aug  1 14:17 1990 design/src/grph/RCS/3D_SYM_CLASS.mdl,v
r--r--r-- 140/405    1284 Aug  1 14:17 1990 design/src/grph/RCS/3D_SYM_OBJ.mdl,v
r--r--r-- 140/405    1253 Aug  1 14:17 1990 design/src/grph/RCS/3D_TERRAIN.mdl,v
r--r--r-- 140/405    1035 Aug  1 14:17 1990 design/src/grph/RCS/3D_VIEWPOINT.mdl,v
r--r--r-- 140/405    1353 Aug  1 12:15 1990 design/src/grph/RCS/ALERT_HNDLR.mdl,v
r--r--r-- 140/405     618 Aug  1 12:15 1990 design/src/grph/RCS/APP_SEG.mdl,v
r--r--r-- 140/405    1988 Aug  1 14:17 1990 design/src/grph/RCS/CHART.mdl,v
r--r--r-- 140/405    1448 Aug  1 14:17 1990 design/src/grph/RCS/CHT_APP_PLATE.mdl,v
r--r--r-- 140/405    1036 Aug  1 14:22 1990 design/src/grph/RCS/CHT_COMMUNIC.mdl,v
r--r--r-- 140/405    1053 Aug  1 14:22 1990 design/src/grph/RCS/CHT_ENRT_FAC.mdl,v
r--r--r-- 140/405    1119 Aug  1 14:22 1990 design/src/grph/RCS/CHT_FIX.mdl,v
r--r--r-- 140/405     933 Aug  1 14:22 1990 design/src/grph/RCS/CHT_FRAME.mdl,v
r--r--r-- 140/405    1074 Aug  1 14:22 1990 design/src/grph/RCS/CHT_HIGH_SPOT.mdl,v
r--r--r-- 140/405    1153 Aug  1 14:22 1990 design/src/grph/RCS/CHT_ID_DATA.mdl,v
r--r--r-- 140/405    1176 Aug  1 14:22 1990 design/src/grph/RCS/CHT_LABEL.mdl,v
r--r--r-- 140/405    1141 Aug  1 14:22 1990 design/src/grph/RCS/CHT_LINE.mdl,v
r--r--r-- 140/405     902 Aug  1 14:22 1990 design/src/grph/RCS/CHT_MSA_AREA.mdl,v
r--r--r-- 140/405     983 Aug  1 14:59 1990 design/src/grph/RCS/CHT_MSA_FIX.mdl,v
r--r--r-- 140/405    1280 Aug  1 14:59 1990 design/src/grph/RCS/CHT_MSA_SECT.mdl,v
r--r--r-- 140/405    1019 Aug  1 14:59 1990 design/src/grph/RCS/CHT_MSA_SECT1.mdl,v
r--r--r-- 140/405     969 Aug  1 14:59 1990 design/src/grph/RCS/CHT_NAVAID.mdl,v
r--r--r-- 140/405    1028 Aug  1 14:59 1990 design/src/grph/RCS/CHT_OPER_MIN.mdl,v
r--r--r-- 140/405    1324 Aug  1 14:59 1990 design/src/grph/RCS/CHT_OPER_MIN1.mdl,v
r--r--r-- 140/405    1456 Aug  1 14:59 1990 design/src/grph/RCS/CHT_PLAN_VIEW.mdl,v
r--r--r-- 140/405     982 Aug  1 14:59 1990 design/src/grph/RCS/CHT_POLY.mdl,v
r--r--r-- 140/405    1001 Aug  1 14:59 1990 design/src/grph/RCS/CHT_POS.mdl,v
r--r--r-- 140/405    1078 Aug  1 14:59 1990 design/src/grph/RCS/CHT_PRF_FIX.mdl,v
r--r--r-- 140/405     925 Aug  1 14:59 1990 design/src/grph/RCS/CHT_PRF_MAPP.mdl,v
r--r--r-- 140/405    1068 Aug  1 14:59 1990 design/src/grph/RCS/CHT_PRF_MNALT.mdl,v
```

```
r--r--r-- 140/405   1062 Aug  1 14:59 1990 design/src/grph/RCS/CHT_PRF_NAV.mdl,v
r--r--r-- 140/405   1027 Aug  1 14:59 1990 design/src/grph/RCS/CHT_PRF_POS.mdl,v
r--r--r-- 140/405   1000 Aug  1 14:59 1990 design/src/grph/RCS/CHT_PRF_RWY.mdl,v
r--r--r-- 140/405   1048 Aug  1 14:59 1990 design/src/grph/RCS/CHT_PRF_RWYTH.mdl,v
r--r--r-- 140/405   1227 Aug  1 14:59 1990 design/src/grph/RCS/CHT_PRF_TRCK.mdl,v
r--r--r-- 140/405   1578 Aug  1 14:59 1990 design/src/grph/RCS/CHT_PROFILE.mdl,v
r--r--r-- 140/405   1182 Aug  1 14:59 1990 design/src/grph/RCS/CHT_PT.mdl,v
r--r--r-- 140/405   1077 Aug  1 14:59 1990 design/src/grph/RCS/CHT_RADIAL.mdl,v
r--r--r-- 140/405   1113 Aug  1 14:59 1990 design/src/grph/RCS/CHT_REST_ASPC.mdl,v
r--r--r-- 140/405   1246 Aug  1 14:59 1990 design/src/grph/RCS/CHT_RING.mdl,v
r--r--r-- 140/405    940 Aug  1 14:59 1990 design/src/grph/RCS/CHT_RWY.mdl,v
r--r--r-- 140/405    999 Aug  1 14:59 1990 design/src/grph/RCS/CHT_SYM.mdl,v
r--r--r-- 140/405    978 Aug  1 14:59 1990 design/src/grph/RCS/CHT_TXT_BLK.mdl,v
r--r--r-- 140/405   1005 Aug  1 12:15 1990 design/src/grph/RCS/EXECUTE_HNDLR.mdl,v
r--r--r-- 140/405   1261 Aug  1 14:59 1990 design/src/grph/RCS/FCS_OVERVIEW.mdl,v
r--r--r-- 140/405   1263 Aug  1 14:59 1990 design/src/grph/RCS/FCS_PREVIEW.mdl,v
r--r--r-- 140/405   1891 Aug  1 14:59 1990 design/src/grph/RCS/FLYTHROUGH.mdl,v
r--r--r-- 140/405   1180 Aug  1 15:00 1990 design/src/grph/RCS/FLYTHR_CUSTOM.mdl,v
r--r--r-- 140/405   1308 Aug  1 15:00 1990 design/src/grph/RCS/FLYTHR_PATH.mdl,v
r--r--r-- 140/405   1529 Aug  1 15:00 1990 design/src/grph/RCS/FLYTHR_PROCED.mdl,v
r--r--r-- 140/405    786 Aug  1 12:15 1990 design/src/grph/RCS/FPD_2D_POS.mdl,v
r--r--r-- 140/405    738 Aug  1 12:15 1990 design/src/grph/RCS/FPD_2D_QAD.mdl,v
r--r--r-- 140/405    754 Aug  1 12:15 1990 design/src/grph/RCS/FPD_2D_TPZ.mdl,v
r--r--r-- 140/405    738 Aug  1 12:15 1990 design/src/grph/RCS/FPD_3D_QAD.mdl,v
r--r--r-- 140/405    792 Aug  1 12:15 1990 design/src/grph/RCS/FPD_3D_TPZ.mdl,v
r--r--r-- 140/405   1539 Aug  1 12:15 1990 design/src/grph/RCS/FPD_ARA.mdl,v
r--r--r-- 140/405    732 Aug  1 12:16 1990 design/src/grph/RCS/FPD_ARC.mdl,v
r--r--r-- 140/405    789 Aug  1 12:16 1990 design/src/grph/RCS/FPD_BRG.mdl,v
r--r--r-- 140/405    865 Aug  1 12:16 1990 design/src/grph/RCS/FPD_DATA.mdl,v
r--r--r-- 140/405   1469 Aug  1 12:16 1990 design/src/grph/RCS/FPD_EXPL.mdl,v
r--r--r-- 140/405   1672 Aug  1 12:16 1990 design/src/grph/RCS/FPD_PARAM.mdl,v
r--r--r-- 140/405    878 Aug  1 12:16 1990 design/src/grph/RCS/FPD_RDL.mdl,v
r--r--r-- 140/405   1160 Aug  1 12:16 1990 design/src/grph/RCS/FPD_REQUEST.mdl,v
r--r--r-- 140/405    645 Aug  1 12:16 1990 design/src/grph/RCS/FPD_REQ_MAPPING.mdl,v
r--r--r-- 140/405    684 Aug  1 12:16 1990 design/src/grph/RCS/FPD_REQ_TABLE.mdl,v
r--r--r-- 140/405    752 Aug  1 12:16 1990 design/src/grph/RCS/FPD_SCT.mdl,v
r--r--r-- 140/405   1877 Aug  1 15:00 1990 design/src/grph/RCS/MAP_VIEW_PARA.mdl,v
r--r--r-- 140/405   2513 Aug  1 13:50 1990 design/src/grph/RCS/Makefile,v
r--r--r-- 140/405   1668 Aug  1 12:16 1990 design/src/grph/RCS/NOTIFY_HNDLR.mdl,v
r--r--r-- 140/405   2242 Aug  1 12:16 1990 design/src/grph/RCS/NX_ATOM.mdl,v
r--r--r-- 140/405    853 Aug  1 12:16 1990 design/src/grph/RCS/NX_DATUM.mdl,v
r--r--r-- 140/405    848 Aug  1 12:16 1990 design/src/grph/RCS/NX_HYPO.mdl,v
r--r--r-- 140/405    781 Aug  1 12:16 1990 design/src/grph/RCS/NX_OBJECT.mdl,v
r--r--r-- 140/405    829 Aug  1 12:16 1990 design/src/grph/RCS/NX_RULE.mdl,v
r--r--r-- 140/405    626 Aug  1 12:16 1990 design/src/grph/RCS/NX_STIMULUS.mdl,v
r--r--r-- 140/405    930 Aug  1 12:16 1990 design/src/grph/RCS/POLLING_HNDLR.mdl,v
r--r--r-- 140/405   1117 Aug  1 15:00 1990 design/src/grph/RCS/PRF_AREA.mdl,v
r--r--r-- 140/405   1490 Aug  1 15:00 1990 design/src/grph/RCS/PRF_CLASS.mdl,v
r--r--r-- 140/405   1167 Aug  1 15:00 1990 design/src/grph/RCS/PRF_CURSOR.mdl,v
r--r--r-- 140/405   1449 Aug  1 15:00 1990 design/src/grph/RCS/PRF_DIMENS.mdl,v
r--r--r-- 140/405   1595 Aug  1 15:00 1990 design/src/grph/RCS/PRF_GEO_CLASS.mdl,v
r--r--r-- 140/405   1052 Aug  1 15:00 1990 design/src/grph/RCS/PRF_GEO_OBJ.mdl,v
r--r--r-- 140/405   1113 Aug  1 15:00 1990 design/src/grph/RCS/PRF_LINE.mdl,v
```

```
r--r--r-- 140/405    1385 Aug  1 15:00 1990 design/src/grph/RCS/PRF_OBJ.mdl,v
r--r--r-- 140/405    2264 Aug  1 15:00 1990 design/src/grph/RCS/PRF_OBJECTS.mdl,v
r--r--r-- 140/405    1003 Aug  1 15:00 1990 design/src/grph/RCS/PRF_POS.mdl,v
r--r--r-- 140/405    1593 Aug  1 15:00 1990 design/src/grph/RCS/PRF_SYM_CLASS.mdl,v
r--r--r-- 140/405    1288 Aug  1 15:00 1990 design/src/grph/RCS/PRF_SYM_OBJ.mdl,v
r--r--r-- 140/405    1144 Aug  1 15:00 1990 design/src/grph/RCS/PRF_TERRAIN.mdl,v
r--r--r-- 140/405    1015 Aug  1 15:00 1990 design/src/grph/RCS/PRF_TRACKS.mdl,v
r--r--r-- 140/405    2572 Aug  1 15:00 1990 design/src/grph/RCS/PROFILE.mdl,v
r--r--r-- 140/405     962 Aug  1 12:16 1990 design/src/grph/RCS/QUESTION_HNDLR.mdl,v
r--r--r-- 140/405    1916 Aug  1 14:16 1990 design/src/grph/RCS/mdl.dir,v
rw-rw-r-- 140/405    9856 Nov 15 11:27 1990 design/src/grph/matrix.G
r--r--r-- 140/405    1806 Aug  1 16:02 1990 design/src/grph/mdl.dir
rw-rw-r-- 140/405  116210 Nov 15 11:27 1990 design/src/grph/x
r--r--r-- 140/405     670 Aug  1 12:37 1990 design/src/makemdl
rwxrwxr-x 140/405 dir     Oct 26 10:37 1991 design/src/mmi_pnl/
r--r--r-- 140/405     831 Aug  1 16:05 1990 design/src/mmi_pnl/2DPLANTOOL_CURSOR_PNL.mdl
r--r--r-- 140/405    1440 Aug  1 16:05 1990 design/src/mmi_pnl/2DPLANTOOL_C_HILI_PNL.mdl
r--r--r-- 140/405    1432 Aug  1 16:05 1990 design/src/mmi_pnl/2DPLANTOOL_C_INT_PNL.mdl
r--r--r-- 140/405     923 Aug  1 16:05 1990 design/src/mmi_pnl/2DPLANTOOL_LABEL_PNL.mdl
r--r--r-- 140/405    1377 Aug  1 16:05 1990 design/src/mmi_pnl/2DPLANTOOL_PROJ_PNL.mdl
r--r--r-- 140/405    1456 Aug  1 16:05 1990 design/src/mmi_pnl/2DPLANTOOL_SCALE_PNL.mdl
r--r--r-- 140/405    1523 Aug  1 16:05 1990 design/src/mmi_pnl/2DPLANTOOL_SYMB_PNL.mdl
r--r--r-- 140/405    1248 Aug  1 16:05 1990 design/src/mmi_pnl/2DPLANTOOL_VWPT_PNL.mdl
r--r--r-- 140/405    1191 Aug  1 16:05 1990 design/src/mmi_pnl/2DPLAN_PNL.mdl
r--r--r-- 140/405    1186 Aug  1 16:05 1990 design/src/mmi_pnl/2DPROFTOOL_ACCU_PNL.mdl
r--r--r-- 140/405     915 Aug  1 16:05 1990 design/src/mmi_pnl/2DPROFTOOL_AREA_PNL.mdl
r--r--r-- 140/405     834 Aug  1 16:05 1990 design/src/mmi_pnl/2DPROFTOOL_CURSOR_PNL.mdl
r--r--r-- 140/405    1423 Aug  1 16:05 1990 design/src/mmi_pnl/2DPROFTOOL_SYMB_PNL.mdl
r--r--r-- 140/405    1168 Aug  1 16:05 1990 design/src/mmi_pnl/2DPROF_PNL.mdl
r--r--r-- 140/405    1637 Aug  1 16:05 1990 design/src/mmi_pnl/3DTOOL_3DVWPT_PNL.mdl
r--r--r-- 140/405    1483 Aug  1 16:05 1990 design/src/mmi_pnl/3DTOOL_ALT_PNL.mdl
r--r--r-- 140/405    1445 Aug  1 16:05 1990 design/src/mmi_pnl/3DTOOL_PITCH_PNL.mdl
r--r--r-- 140/405    1641 Aug  1 16:05 1990 design/src/mmi_pnl/3DTOOL_SYMB_PNL.mdl
r--r--r-- 140/405    1586 Aug  1 16:05 1990 design/src/mmi_pnl/3DTOOL_VANG_PNL.mdl
r--r--r-- 140/405    1469 Aug  1 16:05 1990 design/src/mmi_pnl/3DTOOL_VISIB_PNL.mdl
r--r--r-- 140/405    1428 Aug  1 16:05 1990 design/src/mmi_pnl/3DTOOL_YAW_PNL.mdl
r--r--r-- 140/405    1124 Aug  1 16:05 1990 design/src/mmi_pnl/3D_PNL.mdl
r--r--r-- 140/405    4108 Aug  1 16:04 1990 design/src/mmi_pnl/ADES_PNL.mdl
r--r--r-- 140/405     827 Aug  1 16:05 1990 design/src/mmi_pnl/AIRSEG_DOFP_PNL.mdl
r--r--r-- 140/405    1203 Aug  1 16:05 1990 design/src/mmi_pnl/AIRSEG_OP_PNL.mdl
r--r--r-- 140/405    1179 Aug  1 16:05 1990 design/src/mmi_pnl/AIRSEG_WYPT_PNL.mdl
r--r--r-- 140/405     913 Aug  1 16:05 1990 design/src/mmi_pnl/AREAENTRY_FCT_PNL.mdl
r--r--r-- 140/405     910 Aug  1 16:05 1990 design/src/mmi_pnl/AREAENTRY_SHAPE_PNL.mdl
r--r--r-- 140/405     898 Aug  1 16:06 1990 design/src/mmi_pnl/CARTGEO_COMPU_PNL.mdl
r--r--r-- 140/405    1368 Aug  1 16:06 1990 design/src/mmi_pnl/CARTGEO_IN_PNL.mdl
r--r--r-- 140/405     823 Aug  1 16:06 1990 design/src/mmi_pnl/CARTGEO_MODE_PNL.mdl
r--r--r-- 140/405    1111 Aug  1 16:06 1990 design/src/mmi_pnl/CARTGEO_OUT_PNL.mdl
r--r--r-- 140/405    1485 Aug  1 16:06 1990 design/src/mmi_pnl/CB_FCT_PNL.mdl
r--r--r-- 140/405    1257 Aug  1 16:06 1990 design/src/mmi_pnl/CB_MEM_PNL.mdl
r--r--r-- 140/405    1046 Aug  1 16:04 1990 design/src/mmi_pnl/COMPU_PNL.mdl
r--r--r-- 140/405    2025 Aug  1 16:05 1990 design/src/mmi_pnl/CONTENT_PNL.mdl
r--r--r-- 140/405    1112 Aug  1 16:04 1990 design/src/mmi_pnl/COORD_PNL.mdl
r--r--r-- 140/405    1069 Aug  1 16:04 1990 design/src/mmi_pnl/CTRL_PNL.mdl
```

```
f--f--f-- 140/405    1188 Aug  1 16:04 1990 design/src/mmi_pnl/CURSOR_PNL.mdl
f--f--f-- 140/405     809 Aug  1 16:04 1990 design/src/mmi_pnl/DATA_PNL.mdl
f--f--f-- 140/405    1095 Aug  1 16:06 1990 design/src/mmi_pnl/DC_CONV_PNL.mdl
f--f--f-- 140/405    1080 Aug  1 16:06 1990 design/src/mmi_pnl/DC_DIGIT_PNL.mdl
f--f--f-- 140/405     958 Aug  1 16:06 1990 design/src/mmi_pnl/DC_REG_PNL.mdl
f--f--f-- 140/405    1079 Aug  1 16:06 1990 design/src/mmi_pnl/DC_TRIG_PNL.mdl
f--f--f-- 140/405    1331 Aug  1 16:05 1990 design/src/mmi_pnl/DDOM_EDITCREATE_PNL.mdl
f--f--f-- 140/405     812 Aug  1 16:05 1990 design/src/mmi_pnl/DDOM_LIST_PNL.mdl
f--f--f-- 140/405    1009 Aug  1 16:05 1990 design/src/mmi_pnl/DDOM_SPLIST_PNL.mdl
f--f--f-- 140/405    1069 Aug  1 16:04 1990 design/src/mmi_pnl/DESCRIBE_PNL.mdl
f--f--f-- 140/405     885 Aug  1 16:06 1990 design/src/mmi_pnl/DIST_COMPU_PNL.mdl
f--f--f-- 140/405    1206 Aug  1 16:06 1990 design/src/mmi_pnl/DIST_IN_PNL.mdl
f--f--f-- 140/405     814 Aug  1 16:06 1990 design/src/mmi_pnl/DIST_MODE_PNL.mdl
f--f--f-- 140/405    1271 Aug  1 16:06 1990 design/src/mmi_pnl/DIST_OUT_PNL.mdl
f--f--f-- 140/405     985 Aug  1 16:04 1990 design/src/mmi_pnl/DOFP_PNL.mdl
f--f--f-- 140/405    1162 Aug  1 16:05 1990 design/src/mmi_pnl/EDIT_FCT_PNL.mdl
f--f--f-- 140/405    1204 Aug  1 16:05 1990 design/src/mmi_pnl/EFPSPEC_LOAD_PNL.mdl
f--f--f-- 140/405     847 Aug  1 16:05 1990 design/src/mmi_pnl/EFPSPEC_PNL.mdl
f--f--f-- 140/405    1265 Aug  1 16:05 1990 design/src/mmi_pnl/EFP_DESIGN_PNL.mdl
f--f--f-- 140/405    1016 Aug  1 16:05 1990 design/src/mmi_pnl/EFP_END_PNL.mdl
f--f--f-- 140/405    1346 Aug  1 16:05 1990 design/src/mmi_pnl/EFP_EVAL_PNL.mdl
f--f--f-- 140/405    1065 Aug  1 16:05 1990 design/src/mmi_pnl/EFP_SPECIFY_PNL.mdl
f--f--f-- 140/405     828 Aug  1 16:04 1990 design/src/mmi_pnl/FCT_PNL.mdl
f--f--f-- 140/405    1414 Aug  1 16:05 1990 design/src/mmi_pnl/FDOM_FCT_PNL.mdl
f--f--f-- 140/405     823 Aug  1 16:05 1990 design/src/mmi_pnl/FDOM_LIST_PNL.mdl
f--f--f-- 140/405    1041 Aug  1 16:05 1990 design/src/mmi_pnl/FDOM_PR_PNL.mdl
f--f--f-- 140/405    1380 Aug  1 16:05 1990 design/src/mmi_pnl/FDOM_SEG_PNL.mdl
f--f--f-- 140/405     971 Aug  1 16:05 1990 design/src/mmi_pnl/FDOM_SPLIST_PNL.mdl
f--f--f-- 140/405     807 Aug  1 16:05 1990 design/src/mmi_pnl/FEEDER_DOFP_PNL.mdl
f--f--f-- 140/405    1013 Aug  1 16:05 1990 design/src/mmi_pnl/FEEDER_PATH_PNL.mdl
f--f--f-- 140/405     808 Aug  1 16:05 1990 design/src/mmi_pnl/FINAL_DOFP_PNL.mdl
f--f--f-- 140/405     855 Aug  1 16:05 1990 design/src/mmi_pnl/FINAL_PATH_PNL.mdl
f--f--f-- 140/405    1466 Aug  1 16:05 1990 design/src/mmi_pnl/FLYCUST_PNL.mdl
f--f--f-- 140/405    1374 Aug  1 16:05 1990 design/src/mmi_pnl/FLYPROC_PNL.mdl
f--f--f-- 140/405    1771 Aug  1 16:05 1990 design/src/mmi_pnl/FLYTHRU_FCT_PNL.mdl
f--f--f-- 140/405    1324 Aug  1 16:05 1990 design/src/mmi_pnl/FLYTHRU_SPEED_PNL.mdl
f--f--f-- 140/405    1262 Aug  1 16:05 1990 design/src/mmi_pnl/FLYTHRU_TYPE_PNL.mdl
f--f--f-- 140/405     845 Aug  1 16:04 1990 design/src/mmi_pnl/FOCUSTOOL_LIST_PNL.mdl
f--f--f-- 140/405    1190 Aug  1 16:04 1990 design/src/mmi_pnl/FOCUSTOOL_LOAD_PNL.mdl
f--f--f-- 140/405    1258 Aug  1 16:04 1990 design/src/mmi_pnl/FOCUSTOOL_SCOPE_PNL.mdl
f--f--f-- 140/405     998 Aug  1 16:04 1990 design/src/mmi_pnl/FOCUSTOOL_SPLIST_PNL.mdl
f--f--f-- 140/405    1037 Aug  1 16:04 1990 design/src/mmi_pnl/FOCUSTOOL_SYMB_PNL.mdl
f--f--f-- 140/405    1639 Aug  1 16:04 1990 design/src/mmi_pnl/FOCUSTOOL_VWPT_PNL.mdl
f--f--f-- 140/405    1481 Aug  1 16:06 1990 design/src/mmi_pnl/GC_PNL.mdl
f--f--f-- 140/405     898 Aug  1 16:06 1990 design/src/mmi_pnl/GEOCART_COMPU_PNL.mdl
f--f--f-- 140/405    1293 Aug  1 16:06 1990 design/src/mmi_pnl/GEOCART_IN_PNL.mdl
f--f--f-- 140/405     823 Aug  1 16:06 1990 design/src/mmi_pnl/GEOCART_MODE_PNL.mdl
f--f--f-- 140/405    1189 Aug  1 16:06 1990 design/src/mmi_pnl/GEOCART_OUT_PNL.mdl
f--f--f-- 140/405     794 Aug  1 16:04 1990 design/src/mmi_pnl/GRAPHIC_PNL.mdl
f--f--f-- 140/405     836 Aug  1 16:05 1990 design/src/mmi_pnl/HOLDING_DOFP_PNL.mdl
f--f--f-- 140/405     888 Aug  1 16:05 1990 design/src/mmi_pnl/HOLDING_PATH_PNL.mdl
f--f--f-- 140/405     857 Aug  1 16:04 1990 design/src/mmi_pnl/HYBRID_PNL.mdl
f--f--f-- 140/405     924 Aug  1 16:05 1990 design/src/mmi_pnl/IAPCHARTTOOL_LABEL_PNL.mdl
```

```
r--r--r-- 140/405    1192 Aug  1 16:05 1990 design/src/mmi_pnl/IAPCHARTTOOL_NOTE_PNL.mdl
r--r--r-- 140/405    1088 Aug  1 16:05 1990 design/src/mmi_pnl/IAPCHARTTOOL_PR_PNL.mdl
r--r--r-- 140/405    1169 Aug  1 16:05 1990 design/src/mmi_pnl/IAPCHART_PNL.mdl
r--r--r-- 140/405    1183 Aug  1 16:05 1990 design/src/mmi_pnl/IAPSPEC_LOAD_PNL.mdl
r--r--r-- 140/405     847 Aug  1 16:05 1990 design/src/mmi_pnl/IAPSPEC_PNL.mdl
r--r--r-- 140/405    1547 Aug  1 16:05 1990 design/src/mmi_pnl/IAP_DESIGN_PNL.mdl
r--r--r-- 140/405    1016 Aug  1 16:05 1990 design/src/mmi_pnl/IAP_END_PNL.mdl
r--r--r-- 140/405    1572 Aug  1 16:05 1990 design/src/mmi_pnl/IAP_EVAL_PNL.mdl
r--r--r-- 140/405    1065 Aug  1 16:05 1990 design/src/mmi_pnl/IAP_SPECIFY_PNL.mdl
r--r--r-- 140/405     814 Aug  1 16:05 1990 design/src/mmi_pnl/INITIAL_DOFP_PNL.mdl
r--r--r-- 140/405     861 Aug  1 16:05 1990 design/src/mmi_pnl/INITIAL_PATH_PNL.mdl
r--r--r-- 140/405     895 Aug  1 16:06 1990 design/src/mmi_pnl/INTERX_COMPU_PNL.mdl
r--r--r-- 140/405    1355 Aug  1 16:06 1990 design/src/mmi_pnl/INTERX_IN_PNL.mdl
r--r--r-- 140/405     822 Aug  1 16:06 1990 design/src/mmi_pnl/INTERX_MODE_PNL.mdl
r--r--r-- 140/405    1249 Aug  1 16:06 1990 design/src/mmi_pnl/INTERX_OUT_PNL.mdl
r--r--r-- 140/405     815 Aug  1 16:05 1990 design/src/mmi_pnl/INTER_DOFP_PNL.mdl
r--r--r-- 140/405     862 Aug  1 16:05 1990 design/src/mmi_pnl/INTER_PATH_PNL.mdl
r--r--r-- 140/405     914 Aug  1 16:04 1990 design/src/mmi_pnl/IN_PNL.mdl
r--r--r-- 140/405    1092 Aug  1 16:04 1990 design/src/mmi_pnl/LABEL_PNL.mdl
r--r--r-- 140/405    1564 Aug  1 16:04 1990 design/src/mmi_pnl/LIST_PNL.mdl
r--r--r-- 140/405    1068 Aug  1 16:04 1990 design/src/mmi_pnl/LPR_PNL.mdl
r--r--r-- 140/405     828 Aug  1 16:04 1990 design/src/mmi_pnl/MENU_PNL.mdl
r--r--r-- 140/405     810 Aug  1 16:05 1990 design/src/mmi_pnl/MISSED_DOFP_PNL.mdl
r--r--r-- 140/405     858 Aug  1 16:05 1990 design/src/mmi_pnl/MISSED_PATH_PNL.mdl
r--r--r-- 140/405    1155 Aug  1 16:04 1990 design/src/mmi_pnl/MODE_PNL.mdl
r--r--r-- 140/405     836 Aug  1 16:05 1990 design/src/mmi_pnl/MSA_DOFP_PNL.mdl
r--r--r-- 140/405    4434 Aug  1 16:02 1990 design/src/mmi_pnl/Makefile
r--r--r-- 140/405     887 Aug  1 16:06 1990 design/src/mmi_pnl/NEWPT_COMPU_PNL.mdl
r--r--r-- 140/405    1298 Aug  1 16:06 1990 design/src/mmi_pnl/NEWPT_IN_PNL.mdl
r--r--r-- 140/405     817 Aug  1 16:06 1990 design/src/mmi_pnl/NEWPT_MODE_PNL.mdl
r--r--r-- 140/405    1182 Aug  1 16:06 1990 design/src/mmi_pnl/NEWPT_OUT_PNL.mdl
r--r--r-- 140/405     775 Aug  1 16:04 1990 design/src/mmi_pnl/NORESHAPE_PNL.mdl
r--r--r-- 140/405     835 Aug  1 16:05 1990 design/src/mmi_pnl/OPMIN_DOFP_PNL.mdl
r--r--r-- 140/405     876 Aug  1 16:05 1990 design/src/mmi_pnl/OPMIN_RESTR_PNL.mdl
r--r--r-- 140/405     831 Aug  1 16:04 1990 design/src/mmi_pnl/OPTION_PNL.mdl
r--r--r-- 140/405     923 Aug  1 16:04 1990 design/src/mmi_pnl/OUT_PNL.mdl
r--r--r-- 140/405    1181 Aug  1 16:04 1990 design/src/mmi_pnl/OVERVW_PNL.mdl
r--r--r-- 140/405    1339 Aug  1 16:04 1990 design/src/mmi_pnl/PANEL.mdl
r--r--r-- 140/405    1205 Aug  1 16:04 1990 design/src/mmi_pnl/PREVW_PNL.mdl
r--r--r-- 140/405    1038 Aug  1 16:06 1990 design/src/mmi_pnl/PRINT_FCT_PNL.mdl
r--r--r-- 140/405    1097 Aug  1 16:06 1990 design/src/mmi_pnl/PRINT_PARAM_PNL.mdl
r--r--r-- 140/405     827 Aug  1 16:05 1990 design/src/mmi_pnl/PT_DOFP_PNL.mdl
r--r--r-- 140/405     871 Aug  1 16:05 1990 design/src/mmi_pnl/PT_PATH_PNL.mdl
r--r--r-- 140/405     927 Aug  1 16:04 1990 design/src/mmi_pnl/PULLDOWN_PNL.mdl
rwxrwxr-x 140/405 dir     Oct 26 10:37 1991 design/src/mmi_pnl/RCS/
r--r--r-- 140/405     920 Aug  1 15:40 1990
design/src/mmi_pnl/RCS/2DPLANTOOL_CURSOR_PNL.mdl,v
r--r--r-- 140/405    1529 Aug  1 15:40 1990
design/src/mmi_pnl/RCS/2DPLANTOOL_C_HILI_PNL.mdl,v
r--r--r-- 140/405    1522 Aug  1 15:40 1990
design/src/mmi_pnl/RCS/2DPLANTOOL_C_INT_PNL.mdl,v
r--r--r-- 140/405    1013 Aug  1 15:40 1990
design/src/mmi_pnl/RCS/2DPLANTOOL_LABEL_PNL.mdl,v
```

```
r--r--r-- 140/405    1468 Aug  1 15:40 1990
design/src/mmi_pnl/RCS/2DPLANTOOL_PROJ_PNL.mdl,v
r--r--r-- 140/405    1546 Aug  1 15:40 1990
design/src/mmi_pnl/RCS/2DPLANTOOL_SCALE_PNL.mdl,v
r--r--r-- 140/405    1614 Aug  1 15:40 1990
design/src/mmi_pnl/RCS/2DPLANTOOL_SYMB_PNL.mdl,v
r--r--r-- 140/405    1339 Aug  1 15:40 1990
design/src/mmi_pnl/RCS/2DPLANTOOL_VWPT_PNL.mdl,v
r--r--r-- 140/405    1291 Aug  1 15:40 1990 design/src/mmi_pnl/RCS/2DPLAN_PNL.mdl,v
r--r--r-- 140/405    1277 Aug  1 15:40 1990
design/src/mmi_pnl/RCS/2DPROFTOOL_ACCU_PNL.mdl,v
r--r--r-- 140/405    1006 Aug  1 15:40 1990
design/src/mmi_pnl/RCS/2DPROFTOOL_AREA_PNL.mdl,v
r--r--r-- 140/405     923 Aug  1 15:40 1990
design/src/mmi_pnl/RCS/2DPROFTOOL_CURSOR_PNL.mdl,v
r--r--r-- 140/405    1514 Aug  1 15:40 1990
design/src/mmi_pnl/RCS/2DPROFTOOL_SYMB_PNL.mdl,v
r--r--r-- 140/405    1268 Aug  1 15:40 1990 design/src/mmi_pnl/RCS/2DPROF_PNL.mdl,v
r--r--r-- 140/405    1730 Aug  1 15:40 1990 design/src/mmi_pnl/RCS/3DTOOL_3DVWPT_PNL.mdl,v
r--r--r-- 140/405    1579 Aug  1 15:40 1990 design/src/mmi_pnl/RCS/3DTOOL_ALT_PNL.mdl,v
r--r--r-- 140/405    1539 Aug  1 15:40 1990 design/src/mmi_pnl/RCS/3DTOOL_PITCH_PNL.mdl,v
r--r--r-- 140/405    1736 Aug  1 15:40 1990 design/src/mmi_pnl/RCS/3DTOOL_SYMB_PNL.mdl,v
r--r--r-- 140/405    1681 Aug  1 15:40 1990 design/src/mmi_pnl/RCS/3DTOOL_VANG_PNL.mdl,v
r--r--r-- 140/405    1563 Aug  1 15:40 1990 design/src/mmi_pnl/RCS/3DTOOL_VISIB_PNL.mdl,v
r--r--r-- 140/405    1524 Aug  1 15:40 1990 design/src/mmi_pnl/RCS/3DTOOL_YAW_PNL.mdl,v
r--r--r-- 140/405    1228 Aug  1 15:40 1990 design/src/mmi_pnl/RCS/3D_PNL.mdl,v
r--r--r-- 140/405    4210 Aug  1 15:40 1990 design/src/mmi_pnl/RCS/ADES_PNL.mdl,v
r--r--r-- 140/405     922 Aug  1 15:40 1990 design/src/mmi_pnl/RCS/AIRSEG_DOFP_PNL.mdl,v
r--r--r-- 140/405    1300 Aug  1 15:40 1990 design/src/mmi_pnl/RCS/AIRSEG_OP_PNL.mdl,v
r--r--r-- 140/405    1274 Aug  1 15:40 1990 design/src/mmi_pnl/RCS/AIRSEG_WYPT_PNL.mdl,v
r--r--r-- 140/405    1006 Aug  1 15:40 1990 design/src/mmi_pnl/RCS/AREAENTRY_FCT_PNL.mdl,v
r--r--r-- 140/405    1001 Aug  1 15:40 1990
design/src/mmi_pnl/RCS/AREAENTRY_SHAPE_PNL.mdl,v
r--r--r-- 140/405     991 Aug  1 15:40 1990 design/src/mmi_pnl/RCS/CARTGEO_COMPU_PNL.mdl,v
r--r--r-- 140/405    1464 Aug  1 15:40 1990 design/src/mmi_pnl/RCS/CARTGEO_IN_PNL.mdl,v
r--r--r-- 140/405     917 Aug  1 15:40 1990 design/src/mmi_pnl/RCS/CARTGEO_MODE_PNL.mdl,v
r--r--r-- 140/405    1206 Aug  1 15:43 1990 design/src/mmi_pnl/RCS/CARTGEO_OUT_PNL.mdl,v
r--r--r-- 140/405    1585 Aug  1 15:43 1990 design/src/mmi_pnl/RCS/CB_FCT_PNL.mdl,v
r--r--r-- 140/405    1357 Aug  1 15:43 1990 design/src/mmi_pnl/RCS/CB_MEM_PNL.mdl,v
r--r--r-- 140/405    1147 Aug  1 15:43 1990 design/src/mmi_pnl/RCS/COMPU_PNL.mdl,v
r--r--r-- 140/405    2124 Aug  1 15:43 1990 design/src/mmi_pnl/RCS/CONTENT_PNL.mdl,v
r--r--r-- 140/405    1213 Aug  1 15:43 1990 design/src/mmi_pnl/RCS/COORD_PNL.mdl,v
r--r--r-- 140/405    1171 Aug  1 15:43 1990 design/src/mmi_pnl/RCS/CTRL_PNL.mdl,v
r--r--r-- 140/405    1288 Aug  1 15:43 1990 design/src/mmi_pnl/RCS/CURSOR_PNL.mdl,v
r--r--r-- 140/405     911 Aug  1 15:43 1990 design/src/mmi_pnl/RCS/DATA_PNL.mdl,v
r--r--r-- 140/405    1194 Aug  1 15:43 1990 design/src/mmi_pnl/RCS/DC_CONV_PNL.mdl,v
r--r--r-- 140/405    1178 Aug  1 15:43 1990 design/src/mmi_pnl/RCS/DC_DIGIT_PNL.mdl,v
r--r--r-- 140/405    1058 Aug  1 15:43 1990 design/src/mmi_pnl/RCS/DC_REG_PNL.mdl,v
r--r--r-- 140/405    1178 Aug  1 15:43 1990 design/src/mmi_pnl/RCS/DC_TRIG_PNL.mdl,v
r--r--r-- 140/405    1422 Aug  1 15:43 1990
design/src/mmi_pnl/RCS/DDOM_EDITCREATE_PNL.mdl,v
r--r--r-- 140/405     909 Aug  1 15:43 1990 design/src/mmi_pnl/RCS/DDOM_LIST_PNL.mdl,v
r--r--r-- 140/405    1104 Aug  1 15:43 1990 design/src/mmi_pnl/RCS/DDOM_SPLIST_PNL.mdl,v
```

```
r--r--r-- 140/405    1167 Aug  1 15:43 1990 design/src/mmi_pnl/RCS/DESCRIBE_PNL.mdl,v
r--r--r-- 140/405     981 Aug  1 15:43 1990 design/src/mmi_pnl/RCS/DIST_COMPU_PNL.mdl,v
r--r--r-- 140/405    1305 Aug  1 15:43 1990 design/src/mmi_pnl/RCS/DIST_IN_PNL.mdl,v
r--r--r-- 140/405     911 Aug  1 15:43 1990 design/src/mmi_pnl/RCS/DIST_MODE_PNL.mdl,v
r--r--r-- 140/405    1369 Aug  1 15:43 1990 design/src/mmi_pnl/RCS/DIST_OUT_PNL.mdl,v
r--r--r-- 140/405    1087 Aug  1 15:43 1990 design/src/mmi_pnl/RCS/DOFP_PNL.mdl,v
r--r--r-- 140/405    1260 Aug  1 15:43 1990 design/src/mmi_pnl/RCS/EDIT_FCT_PNL.mdl,v
r--r--r-- 140/405    1298 Aug  1 15:44 1990 design/src/mmi_pnl/RCS/EFPSPEC_LOAD_PNL.mdl,v
r--r--r-- 140/405     946 Aug  1 15:44 1990 design/src/mmi_pnl/RCS/EFPSPEC_PNL.mdl,v
r--r--r-- 140/405    1361 Aug  1 15:44 1990 design/src/mmi_pnl/RCS/EFP_DESIGN_PNL.mdl,v
r--r--r-- 140/405    1115 Aug  1 15:44 1990 design/src/mmi_pnl/RCS/EFP_END_PNL.mdl,v
r--r--r-- 140/405    1444 Aug  1 15:44 1990 design/src/mmi_pnl/RCS/EFP_EVAL_PNL.mdl,v
r--r--r-- 140/405    1160 Aug  1 15:44 1990 design/src/mmi_pnl/RCS/EFP_SPECIFY_PNL.mdl,v
r--r--r-- 140/405     931 Aug  1 15:44 1990 design/src/mmi_pnl/RCS/FCT_PNL.mdl,v
r--r--r-- 140/405    1512 Aug  1 15:44 1990 design/src/mmi_pnl/RCS/FDOM_FCT_PNL.mdl,v
r--r--r-- 140/405     920 Aug  1 15:44 1990 design/src/mmi_pnl/RCS/FDOM_LIST_PNL.mdl,v
r--r--r-- 140/405    1140 Aug  1 15:44 1990 design/src/mmi_pnl/RCS/FDOM_PR_PNL.mdl,v
r--r--r-- 140/405    1478 Aug  1 15:44 1990 design/src/mmi_pnl/RCS/FDOM_SEG_PNL.mdl,v
r--r--r-- 140/405    1066 Aug  1 15:44 1990 design/src/mmi_pnl/RCS/FDOM_SPLIST_PNL.mdl,v
r--r--r-- 140/405     902 Aug  1 15:44 1990 design/src/mmi_pnl/RCS/FEEDER_DOFP_PNL.mdl,v
r--r--r-- 140/405    1108 Aug  1 15:44 1990 design/src/mmi_pnl/RCS/FEEDER_PATH_PNL.mdl,v
r--r--r-- 140/405     904 Aug  1 15:44 1990 design/src/mmi_pnl/RCS/FINAL_DOFP_PNL.mdl,v
r--r--r-- 140/405     951 Aug  1 15:44 1990 design/src/mmi_pnl/RCS/FINAL_PATH_PNL.mdl,v
r--r--r-- 140/405    1565 Aug  1 15:44 1990 design/src/mmi_pnl/RCS/FLYCUST_PNL.mdl,v
r--r--r-- 140/405    1473 Aug  1 15:44 1990 design/src/mmi_pnl/RCS/FLYPROC_PNL.mdl,v
r--r--r-- 140/405    1866 Aug  1 15:44 1990 design/src/mmi_pnl/RCS/FLYTHRU_FCT_PNL.mdl,v
r--r--r-- 140/405    1417 Aug  1 15:44 1990 design/src/mmi_pnl/RCS/FLYTHRU_SPEED_PNL.mdl,v
r--r--r-- 140/405    1356 Aug  1 15:44 1990 design/src/mmi_pnl/RCS/FLYTHRU_TYPE_PNL.mdl,v
r--r--r-- 140/405     937 Aug  1 15:44 1990 design/src/mmi_pnl/RCS/FOCUSTOOL_LIST_PNL.mdl,v
r--r--r-- 140/405    1282 Aug  1 15:44 1990
design/src/mmi_pnl/RCS/FOCUSTOOL_LOAD_PNL.mdl,v
r--r--r-- 140/405    1349 Aug  1 15:44 1990
design/src/mmi_pnl/RCS/FOCUSTOOL_SCOPE_PNL.mdl,v
r--r--r-- 140/405    1088 Aug  1 15:44 1990
design/src/mmi_pnl/RCS/FOCUSTOOL_SPLIST_PNL.mdl,v
r--r--r-- 140/405    1129 Aug  1 15:44 1990
design/src/mmi_pnl/RCS/FOCUSTOOL_SYMB_PNL.mdl,v
r--r--r-- 140/405    1731 Aug  1 15:44 1990
design/src/mmi_pnl/RCS/FOCUSTOOL_VWPT_PNL.mdl,v
r--r--r-- 140/405    1585 Aug  1 15:44 1990 design/src/mmi_pnl/RCS/GC_PNL.mdl,v
r--r--r-- 140/405     991 Aug  1 15:44 1990 design/src/mmi_pnl/RCS/GEOCART_COMPU_PNL.mdl,v
r--r--r-- 140/405    1389 Aug  1 15:44 1990 design/src/mmi_pnl/RCS/GEOCART_IN_PNL.mdl,v
r--r--r-- 140/405     917 Aug  1 15:44 1990 design/src/mmi_pnl/RCS/GEOCART_MODE_PNL.mdl,v
r--r--r-- 140/405    1284 Aug  1 15:45 1990 design/src/mmi_pnl/RCS/GEOCART_OUT_PNL.mdl,v
r--r--r-- 140/405     893 Aug  1 15:45 1990 design/src/mmi_pnl/RCS/GRAPHIC_PNL.mdl,v
r--r--r-- 140/405     930 Aug  1 15:45 1990 design/src/mmi_pnl/RCS/HOLDING_DOFP_PNL.mdl,v
r--r--r-- 140/405     982 Aug  1 15:45 1990 design/src/mmi_pnl/RCS/HOLDING_PATH_PNL.mdl,v
r--r--r-- 140/405     957 Aug  1 15:45 1990 design/src/mmi_pnl/RCS/HYBRID_PNL.mdl,v
r--r--r-- 140/405    1107 Aug  1 15:45 1990 design/src/mmi_pnl/RCS/IAPCHARTTOOL_F_PNL.mdl,v
r--r--r-- 140/405    1012 Aug  1 15:45 1990
design/src/mmi_pnl/RCS/IAPCHARTTOOL_LABEL_PNL.mdl,v
r--r--r-- 140/405    1281 Aug  1 15:45 1990
design/src/mmi_pnl/RCS/IAPCHARTTOOL_NOTE_PNL.mdl,v
```

```
r--r--r-- 140/405    1179 Aug  1 15:45 1990
design/src/mmi_pnl/RCS/IAPCHARTTOOL_PR_PNL.mdl,v
r--r--r-- 140/405    1267 Aug  1 15:45 1990 design/src/mmi_pnl/RCS/IAPCHART_PNL.mdl,v
r--r--r-- 140/405    1277 Aug  1 15:45 1990 design/src/mmi_pnl/RCS/IAPSPEC_LOAD_PNL.mdl,v
r--r--r-- 140/405     946 Aug  1 15:45 1990 design/src/mmi_pnl/RCS/IAPSPEC_PNL.mdl,v
r--r--r-- 140/405    1643 Aug  1 15:45 1990 design/src/mmi_pnl/RCS/IAP_DESIGN_PNL.mdl,v
r--r--r-- 140/405    1115 Aug  1 15:45 1990 design/src/mmi_pnl/RCS/IAP_END_PNL.mdl,v
r--r--r-- 140/405    1670 Aug  1 15:45 1990 design/src/mmi_pnl/RCS/IAP_EVAL_PNL.mdl,v
r--r--r-- 140/405    1160 Aug  1 15:45 1990 design/src/mmi_pnl/RCS/IAP_SPECIFY_PNL.mdl,v
r--r--r-- 140/405     908 Aug  1 15:45 1990 design/src/mmi_pnl/RCS/INITIAL_DOFP_PNL.mdl,v
r--r--r-- 140/405     955 Aug  1 15:45 1990 design/src/mmi_pnl/RCS/INITIAL_PATH_PNL.mdl,v
r--r--r-- 140/405     989 Aug  1 15:45 1990 design/src/mmi_pnl/RCS/INTERX_COMPU_PNL.mdl,v
r--r--r-- 140/405    1452 Aug  1 15:45 1990 design/src/mmi_pnl/RCS/INTERX_IN_PNL.mdl,v
r--r--r-- 140/405     917 Aug  1 15:45 1990 design/src/mmi_pnl/RCS/INTERX_MODE_PNL.mdl,v
r--r--r-- 140/405    1345 Aug  1 15:45 1990 design/src/mmi_pnl/RCS/INTERX_OUT_PNL.mdl,v
r--r--r-- 140/405     911 Aug  1 15:45 1990 design/src/mmi_pnl/RCS/INTER_DOFP_PNL.mdl,v
r--r--r-- 140/405     958 Aug  1 15:45 1990 design/src/mmi_pnl/RCS/INTER_PATH_PNL.mdl,v
r--r--r-- 140/405    1018 Aug  1 15:45 1990 design/src/mmi_pnl/RCS/IN_PNL.mdl,v
r--r--r-- 140/405    1193 Aug  1 15:45 1990 design/src/mmi_pnl/RCS/LABEL_PNL.mdl,v
r--r--r-- 140/405    1666 Aug  1 15:45 1990 design/src/mmi_pnl/RCS/LIST_PNL.mdl,v
r--r--r-- 140/405    1171 Aug  1 15:45 1990 design/src/mmi_pnl/RCS/LPR_PNL.mdl,v
r--r--r-- 140/405     930 Aug  1 15:45 1990 design/src/mmi_pnl/RCS/MENU_PNL.mdl,v
r--r--r-- 140/405     905 Aug  1 15:45 1990 design/src/mmi_pnl/RCS/MISSED_DOFP_PNL.mdl,v
r--r--r-- 140/405     953 Aug  1 15:45 1990 design/src/mmi_pnl/RCS/MISSED_PATH_PNL.mdl,v
r--r--r-- 140/405    1257 Aug  1 15:46 1990 design/src/mmi_pnl/RCS/MODE_PNL.mdl,v
r--r--r-- 140/405     934 Aug  1 15:46 1990 design/src/mmi_pnl/RCS/MSA_DOFP_PNL.mdl,v
r--r--r-- 140/405    4630 Aug  1 15:39 1990 design/src/mmi_pnl/RCS/Makefile,v
r--r--r-- 140/405     982 Aug  1 15:46 1990 design/src/mmi_pnl/RCS/NEWPT_COMPU_PNL.mdl,v
r--r--r-- 140/405    1396 Aug  1 15:46 1990 design/src/mmi_pnl/RCS/NEWPT_IN_PNL.mdl,v
r--r--r-- 140/405     913 Aug  1 15:46 1990 design/src/mmi_pnl/RCS/NEWPT_MODE_PNL.mdl,v
r--r--r-- 140/405    1279 Aug  1 15:46 1990 design/src/mmi_pnl/RCS/NEWPT_OUT_PNL.mdl,v
r--r--r-- 140/405     872 Aug  1 15:46 1990 design/src/mmi_pnl/RCS/NORESHAPE_PNL.mdl,v
r--r--r-- 140/405     931 Aug  1 15:46 1990 design/src/mmi_pnl/RCS/OPMIN_DOFP_PNL.mdl,v
r--r--r-- 140/405     971 Aug  1 15:46 1990 design/src/mmi_pnl/RCS/OPMIN_RESTR_PNL.mdl,v
r--r--r-- 140/405     931 Aug  1 15:46 1990 design/src/mmi_pnl/RCS/OPTION_PNL.mdl,v
r--r--r-- 140/405    1026 Aug  1 15:46 1990 design/src/mmi_pnl/RCS/OUT_PNL.mdl,v
r--r--r-- 140/405    1281 Aug  1 15:46 1990 design/src/mmi_pnl/RCS/OVERVW_PNL.mdl,v
r--r--r-- 140/405    1444 Aug  1 15:46 1990 design/src/mmi_pnl/RCS/PANEL.mdl,v
r--r--r-- 140/405    1306 Aug  1 15:46 1990 design/src/mmi_pnl/RCS/PREVW_PNL.mdl,v
r--r--r-- 140/405    1135 Aug  1 15:46 1990 design/src/mmi_pnl/RCS/PRINT_FCT_PNL.mdl,v
r--r--r-- 140/405    1192 Aug  1 15:46 1990 design/src/mmi_pnl/RCS/PRINT_PARAM_PNL.mdl,v
r--r--r-- 140/405     926 Aug  1 15:46 1990 design/src/mmi_pnl/RCS/PT_DOFP_PNL.mdl,v
r--r--r-- 140/405     970 Aug  1 15:46 1990 design/src/mmi_pnl/RCS/PT_PATH_PNL.mdl,v
r--r--r-- 140/405    1025 Aug  1 15:46 1990 design/src/mmi_pnl/RCS/PULLDOWN_PNL.mdl,v
r--r--r-- 140/405     857 Aug  1 15:46 1990 design/src/mmi_pnl/RCS/RESHAPEW_PNL.mdl,v
r--r--r-- 140/405     904 Aug  1 15:46 1990 design/src/mmi_pnl/RCS/SCROLL_MENU_PNL.mdl,v
r--r--r-- 140/405     909 Aug  1 15:46 1990 design/src/mmi_pnl/RCS/SCROLL_TABLE_PNL.mdl,v
r--r--r-- 140/405    1009 Aug  1 15:46 1990 design/src/mmi_pnl/RCS/SEARCH_COMPU_PNL.mdl,v
r--r--r-- 140/405    1295 Aug  1 15:46 1990 design/src/mmi_pnl/RCS/SEARCH_IN_PNL.mdl,v
r--r--r-- 140/405     957 Aug  1 15:46 1990 design/src/mmi_pnl/RCS/SEARCH_LIST_PNL.mdl,v
r--r--r-- 140/405    1279 Aug  1 15:46 1990 design/src/mmi_pnl/RCS/SEARCH_OUT_PNL.mdl,v
r--r--r-- 140/405    1157 Aug  1 15:46 1990 design/src/mmi_pnl/RCS/SEARCH_SPLIST_PNL.mdl,v
r--r--r-- 140/405     935 Aug  1 15:46 1990 design/src/mmi_pnl/RCS/SHUTTLE_DOFP_PNL.mdl,v
```

```
r--r--r-- 140/405    986 Aug  1 15:46 1990 design/src/mmi_pnl/RCS/SHUTTLE_PATH_PNL.mdl,v
r--r--r-- 140/405   2312 Aug  1 15:47 1990 design/src/mmi_pnl/RCS/SPLIST_PNL.mdl,v
r--r--r-- 140/405   1630 Aug  1 15:47 1990 design/src/mmi_pnl/RCS/STORCONT_FCT_PNL.mdl,v
r--r--r-- 140/405   1309 Aug  1 15:47 1990 design/src/mmi_pnl/RCS/STORCONT_PNL.mdl,v
r--r--r-- 140/405   1345 Aug  1 15:47 1990 design/src/mmi_pnl/RCS/STORCONT_TRAV_PNL.mdl,v
r--r--r-- 140/405   1482 Aug  1 15:47 1990 design/src/mmi_pnl/RCS/STORSET_DIR_PNL.mdl,v
r--r--r-- 140/405   1184 Aug  1 15:47 1990 design/src/mmi_pnl/RCS/STORSET_FCT_PNL.mdl,v
r--r--r-- 140/405   1425 Aug  1 15:47 1990 design/src/mmi_pnl/RCS/STORSET_PREF_PNL.mdl,v
r--r--r-- 140/405   2536 Aug  1 15:47 1990 design/src/mmi_pnl/RCS/SYMB_PNL.mdl,v
r--r--r-- 140/405    926 Aug  1 15:47 1990 design/src/mmi_pnl/RCS/TABLE_PNL.mdl,v
r--r--r-- 140/405    916 Aug  1 15:47 1990 design/src/mmi_pnl/RCS/TERMINAL_LIST_PNL.mdl,v
r--r--r-- 140/405   1084 Aug  1 15:47 1990 design/src/mmi_pnl/RCS/TERMINAL_SPLIST_PNL.mdl,v
r--r--r-- 140/405   1402 Aug  1 15:47 1990 design/src/mmi_pnl/RCS/TRANS_SEG_PNL.mdl,v
r--r--r-- 140/405    978 Aug  1 15:47 1990 design/src/mmi_pnl/RCS/TXTSCR_PNL.mdl,v
r--r--r-- 140/405    957 Aug  1 15:47 1990 design/src/mmi_pnl/RCS/TXT_PNL.mdl,v
r--r--r-- 140/405   1309 Aug  1 15:47 1990 design/src/mmi_pnl/RCS/USERSET_FCT_PNL.mdl,v
r--r--r-- 140/405   1639 Aug  1 15:47 1990 design/src/mmi_pnl/RCS/USERSET_PREF_PNL.mdl,v
r--r--r-- 140/405   1762 Aug  1 15:47 1990 design/src/mmi_pnl/RCS/VWPT_PNL.mdl,v
r--r--r-- 140/405   3645 Aug  1 15:39 1990 design/src/mmi_pnl/RCS/mdl.dir,v
r--r--r-- 140/405    759 Aug  1 16:04 1990 design/src/mmi_pnl/RESHAPEW_PNL.mdl
r--r--r-- 140/405    899 Aug  1 16:04 1990 design/src/mmi_pnl/SCROLL_MENU_PNL.mdl
r--r--r-- 140/405    815 Aug  1 16:04 1990 design/src/mmi_pnl/SCROLL_TABLE_PNL.mdl
r--r--r-- 140/405    915 Aug  1 16:05 1990 design/src/mmi_pnl/SEARCH_COMPU_PNL.mdl
r--r--r-- 140/405   1198 Aug  1 16:05 1990 design/src/mmi_pnl/SEARCH_IN_PNL.mdl
r--r--r-- 140/405    862 Aug  1 16:05 1990 design/src/mmi_pnl/SEARCH_LIST_PNL.mdl
r--r--r-- 140/405   1183 Aug  1 16:05 1990 design/src/mmi_pnl/SEARCH_OUT_PNL.mdl
r--r--r-- 140/405   1064 Aug  1 16:05 1990 design/src/mmi_pnl/SEARCH_SPLIST_PNL.mdl
r--r--r-- 140/405    841 Aug  1 16:05 1990 design/src/mmi_pnl/SHUTTLE_DOFP_PNL.mdl
r--r--r-- 140/405    892 Aug  1 16:05 1990 design/src/mmi_pnl/SHUTTLE_PATH_PNL.mdl
r--r--r-- 140/405   2212 Aug  1 16:04 1990 design/src/mmi_pnl/SPLIST_PNL.mdl
r--r--r-- 140/405   1536 Aug  1 16:06 1990 design/src/mmi_pnl/STORCONT_FCT_PNL.mdl
r--r--r-- 140/405   1211 Aug  1 16:06 1990 design/src/mmi_pnl/STORCONT_PNL.mdl
r--r--r-- 140/405   1252 Aug  1 16:06 1990 design/src/mmi_pnl/STORCONT_TRAV_PNL.mdl
r--r--r-- 140/405   1387 Aug  1 16:06 1990 design/src/mmi_pnl/STORSET_DIR_PNL.mdl
r--r--r-- 140/405   1089 Aug  1 16:06 1990 design/src/mmi_pnl/STORSET_FCT_PNL.mdl
r--r--r-- 140/405   1331 Aug  1 16:06 1990 design/src/mmi_pnl/STORSET_PREF_PNL.mdl
r--r--r-- 140/405   2434 Aug  1 16:04 1990 design/src/mmi_pnl/SYMB_PNL.mdl
r--r--r-- 140/405    825 Aug  1 16:04 1990 design/src/mmi_pnl/TABLE_PNL.mdl
r--r--r-- 140/405    823 Aug  1 16:05 1990 design/src/mmi_pnl/TERMINAL_LIST_PNL.mdl
r--r--r-- 140/405    993 Aug  1 16:05 1990 design/src/mmi_pnl/TERMINAL_SPLIST_PNL.mdl
r--r--r-- 140/405   1305 Aug  1 16:05 1990 design/src/mmi_pnl/TRANS_SEG_PNL.mdl
r--r--r-- 140/405    878 Aug  1 16:04 1990 design/src/mmi_pnl/TXTSCR_PNL.mdl
r--r--r-- 140/405    854 Aug  1 16:04 1990 design/src/mmi_pnl/TXT_PNL.mdl
r--r--r-- 140/405   1214 Aug  1 16:06 1990 design/src/mmi_pnl/USERSET_FCT_PNL.mdl
r--r--r-- 140/405   1545 Aug  1 16:06 1990 design/src/mmi_pnl/USERSET_PREF_PNL.mdl
r--r--r-- 140/405   1660 Aug  1 16:04 1990 design/src/mmi_pnl/VWPT_PNL.mdl
rw-rw-r-- 140/405  17633 Nov 15 12:31 1990 design/src/mmi_pnl/matrix.MP
r--r--r-- 140/405   3538 Aug  1 16:04 1990 design/src/mmi_pnl/mdl.dir
rw-rw-r-- 140/405 201834 Nov 15 12:29 1990 design/src/mmi_pnl/x
rwxrwxr-x 140/405 dir    Oct 26 10:36 1991 design/src/mmi_top/
r--r--r-- 140/405    690 Aug  1 12:43 1990 design/src/mmi_top/Makefile
r--r--r-- 140/405   1168 Aug  1 12:53 1990 design/src/mmi_top/OP_SET.mdl
rwxrwxr-x 140/405 dir    Oct 26 10:36 1991 design/src/mmi_top/RCS/
```

```
r--r--r-- 140/405    886 Aug  1 12:43 1990 design/src/mmi_top/RCS/Makefile,v
r--r--r-- 140/405   1272 Aug  1 12:52 1990 design/src/mmi_top/RCS/CP_SET.mdl,v
r--r--r-- 140/405   1457 Aug  1 12:52 1990 design/src/mmi_top/RCS/SESSION.mdl,v
r--r--r-- 140/405   1623 Aug  1 12:52 1990 design/src/mmi_top/RCS/WINDOW_STATE.mdl,v
r--r--r-- 140/405   1846 Aug  1 12:52 1990 design/src/mmi_top/RCS/WMWU_SET.mdl,v
r--r--r-- 140/405    686 Aug  1 12:50 1990 design/src/mmi_top/RCS/mdl.dir,v
r--r--r-- 140/405   1354 Aug  1 12:52 1990 design/src/mmi_top/SESSION.mdl
r--r--r-- 140/405   1525 Aug  1 12:53 1990 design/src/mmi_top/WINDOW_STATE.mdl
r--r--r-- 140/405   1744 Aug  1 12:53 1990 design/src/mmi_top/WMWU_SET.mdl
rw-rw-r-- 140/405   1848 Nov 15 12:32 1990 design/src/mmi_top/matrix.MT
r--r--r-- 140/405    579 Aug  1 12:50 1990 design/src/mmi_top/mdl.dir
rw-rw-r-- 140/405   7643 Nov 15 12:32 1990 design/src/mmi_top/x
rwxrwxr-x 140/405 dir    Oct 26 10:36 1991 design/src/mmi_wnd/
r--r--r-- 140/405   2143 Aug  1 16:04 1990 design/src/mmi_wnd/2DPLANTOOL_WND.mdl
r--r--r-- 140/405    915 Aug  1 16:04 1990 design/src/mmi_wnd/2DPLAN_WND.mdl
r--r--r-- 140/405   1570 Aug  1 16:04 1990 design/src/mmi_wnd/2DPROFTOOL_WND.mdl
r--r--r-- 140/405    922 Aug  1 16:04 1990 design/src/mmi_wnd/2DPROF_WND.mdl
r--r--r-- 140/405   1750 Aug  1 16:04 1990 design/src/mmi_wnd/3DTOOL_WND.mdl
r--r--r-- 140/405    930 Aug  1 16:04 1990 design/src/mmi_wnd/3D_WND.mdl
r--r--r-- 140/405    839 Aug  1 16:03 1990 design/src/mmi_wnd/ADES_WND.mdl
r--r--r-- 140/405   1043 Aug  1 16:03 1990 design/src/mmi_wnd/AIRAC_WND.mdl
r--r--r-- 140/405   1067 Aug  1 16:04 1990 design/src/mmi_wnd/AIRSEG_WND.mdl
r--r--r-- 140/405   1417 Aug  1 16:04 1990 design/src/mmi_wnd/AREAENTRY_WND.mdl
r--r--r-- 140/405   1311 Aug  1 16:04 1990 design/src/mmi_wnd/CARTGEO_WND.mdl
r--r--r-- 140/405   1054 Aug  1 16:04 1990 design/src/mmi_wnd/CB_WND.mdl
r--r--r-- 140/405   1236 Aug  1 16:04 1990 design/src/mmi_wnd/DC_WND.mdl
r--r--r-- 140/405   1345 Aug  1 16:04 1990 design/src/mmi_wnd/DDOM_WND.mdl
r--r--r-- 140/405   1224 Aug  1 16:04 1990 design/src/mmi_wnd/DESC_WND.mdl
r--r--r-- 140/405   1260 Aug  1 16:04 1990 design/src/mmi_wnd/DIST_WND.mdl
r--r--r-- 140/405   1379 Aug  1 16:04 1990 design/src/mmi_wnd/EDIT_WND.mdl
r--r--r-- 140/405    972 Aug  1 16:04 1990 design/src/mmi_wnd/EFPSPEC_WND.mdl
r--r--r-- 140/405   1101 Aug  1 16:04 1990 design/src/mmi_wnd/EFP_WND.mdl
r--r--r-- 140/405   1437 Aug  1 16:04 1990 design/src/mmi_wnd/FDOM_WND.mdl
r--r--r-- 140/405   1078 Aug  1 16:04 1990 design/src/mmi_wnd/FEEDER_WND.mdl
r--r--r-- 140/405    946 Aug  1 16:04 1990 design/src/mmi_wnd/FINAL_WND.mdl
r--r--r-- 140/405   1053 Aug  1 16:04 1990 design/src/mmi_wnd/FIXDEF_WND.mdl
r--r--r-- 140/405    878 Aug  1 16:04 1990 design/src/mmi_wnd/FLYCUST_WND.mdl
r--r--r-- 140/405    887 Aug  1 16:04 1990 design/src/mmi_wnd/FLYPROC_WND.mdl
r--r--r-- 140/405   1109 Aug  1 16:04 1990 design/src/mmi_wnd/FLYTHRU_WND.mdl
r--r--r-- 140/405   1865 Aug  1 16:03 1990 design/src/mmi_wnd/FOCUSTOOL_WND.mdl
r--r--r-- 140/405   1111 Aug  1 16:04 1990 design/src/mmi_wnd/FPDESC_WND.mdl
r--r--r-- 140/405   1016 Aug  1 16:04 1990 design/src/mmi_wnd/GC_WND.mdl
r--r--r-- 140/405   1312 Aug  1 16:04 1990 design/src/mmi_wnd/GEOCART_WND.mdl
r--r--r-- 140/405    730 Aug  1 16:03 1990 design/src/mmi_wnd/GRAPHIC_WND.mdl
r--r--r-- 140/405    973 Aug  1 16:04 1990 design/src/mmi_wnd/HOLDING_WND.mdl
r--r--r-- 140/405   1096 Aug  1 16:04 1990 design/src/mmi_wnd/IAPCHARTTOOL_WND.mdl
r--r--r-- 140/405    843 Aug  1 16:04 1990 design/src/mmi_wnd/IAPCHART_WND.mdl
r--r--r-- 140/405    978 Aug  1 16:04 1990 design/src/mmi_wnd/IAPSPEC_WND.mdl
r--r--r-- 140/405   1103 Aug  1 16:04 1990 design/src/mmi_wnd/IAP_WND.mdl
r--r--r-- 140/405    964 Aug  1 16:04 1990 design/src/mmi_wnd/INITIAL_WND.mdl
r--r--r-- 140/405   1306 Aug  1 16:04 1990 design/src/mmi_wnd/INTERX_WND.mdl
r--r--r-- 140/405    966 Aug  1 16:04 1990 design/src/mmi_wnd/INTER_WND.mdl
r--r--r-- 140/405    954 Aug  1 16:04 1990 design/src/mmi_wnd/MISSED_WND.mdl
```

```
r--r--r-- 140/405     844 Aug  1 16:04 1990 design/src/mmi_wnd/MSA_WND.mdl
r--r--r-- 140/405    1832 Aug  1 16:02 1990 design/src/mmi_wnd/Makefile
r--r--r-- 140/405    1277 Aug  1 16:04 1990 design/src/mmi_wnd/NEWPT_WND.mdl
r--r--r-- 140/405     782 Aug  1 16:03 1990 design/src/mmi_wnd/NORESHAPE_WND.mdl
r--r--r-- 140/405     971 Aug  1 16:04 1990 design/src/mmi_wnd/OPMIN_WND.mdl
r--r--r-- 140/405     946 Aug  1 16:04 1990 design/src/mmi_wnd/OVERVW_WND.mdl
r--r--r-- 140/405     938 Aug  1 16:04 1990 design/src/mmi_wnd/PREVW_WND.mdl
r--r--r-- 140/405    1078 Aug  1 16:04 1990 design/src/mmi_wnd/PRINT_WND.mdl
r--r--r-- 140/405     965 Aug  1 16:04 1990 design/src/mmi_wnd/PT_WND.mdl
r--r--r-- 140/405     788 Aug  1 16:03 1990 design/src/mmi_wnd/PULLDOWN_WND.mdl
rwxrwxr-x 140/405 dir     Oct 26 10:36 1991 design/src/mmi_wnd/RCS/
r--r--r-- 140/405    2239 Aug  1 15:50 1990 design/src/mmi_wnd/RCS/2DPLANTOOL_WND.mdl,v
r--r--r-- 140/405    1015 Aug  1 15:50 1990 design/src/mmi_wnd/RCS/2DPLAN_WND.mdl,v
r--r--r-- 140/405    1666 Aug  1 15:50 1990 design/src/mmi_wnd/RCS/2DPROFTOOL_WND.mdl,v
r--r--r-- 140/405    1022 Aug  1 15:50 1990 design/src/mmi_wnd/RCS/2DPROF_WND.mdl,v
r--r--r-- 140/405    1850 Aug  1 15:50 1990 design/src/mmi_wnd/RCS/3DTOOL_WND.mdl,v
r--r--r-- 140/405    1034 Aug  1 15:50 1990 design/src/mmi_wnd/RCS/3D_WND.mdl,v
r--r--r-- 140/405     941 Aug  1 15:50 1990 design/src/mmi_wnd/RCS/ADES_WND.mdl,v
r--r--r-- 140/405    1144 Aug  1 15:50 1990 design/src/mmi_wnd/RCS/AIRAC_WND.mdl,v
r--r--r-- 140/405    1167 Aug  1 15:50 1990 design/src/mmi_wnd/RCS/AIRSEG_WND.mdl,v
r--r--r-- 140/405    1514 Aug  1 15:50 1990 design/src/mmi_wnd/RCS/AREAENTRY_WND.mdl,v
r--r--r-- 140/405    1410 Aug  1 15:50 1990 design/src/mmi_wnd/RCS/CARTGEO_WND.mdl,v
r--r--r-- 140/405    1158 Aug  1 15:50 1990 design/src/mmi_wnd/RCS/CB_WND.mdl,v
r--r--r-- 140/405    1340 Aug  1 15:50 1990 design/src/mmi_wnd/RCS/DC_WND.mdl,v
r--r--r-- 140/405    1447 Aug  1 15:50 1990 design/src/mmi_wnd/RCS/DDOM_WND.mdl,v
r--r--r-- 140/405    1326 Aug  1 15:50 1990 design/src/mmi_wnd/RCS/DESC_WND.mdl,v
r--r--r-- 140/405    1362 Aug  1 15:50 1990 design/src/mmi_wnd/RCS/DIST_WND.mdl,v
r--r--r-- 140/405    1481 Aug  1 15:50 1990 design/src/mmi_wnd/RCS/EDIT_WND.mdl,v
r--r--r-- 140/405    1071 Aug  1 15:50 1990 design/src/mmi_wnd/RCS/EFPSPEC_WND.mdl,v
r--r--r-- 140/405    1204 Aug  1 15:50 1990 design/src/mmi_wnd/RCS/EFP_WND.mdl,v
r--r--r-- 140/405    1539 Aug  1 15:50 1990 design/src/mmi_wnd/RCS/FDOM_WND.mdl,v
r--r--r-- 140/405    1178 Aug  1 15:50 1990 design/src/mmi_wnd/RCS/FEEDER_WND.mdl,v
r--r--r-- 140/405    1047 Aug  1 15:50 1990 design/src/mmi_wnd/RCS/FINAL_WND.mdl,v
r--r--r-- 140/405    1153 Aug  1 15:50 1990 design/src/mmi_wnd/RCS/FIXDEF_WND.mdl,v
r--r--r-- 140/405     977 Aug  1 15:50 1990 design/src/mmi_wnd/RCS/FLYCUST_WND.mdl,v
r--r--r-- 140/405     986 Aug  1 15:51 1990 design/src/mmi_wnd/RCS/FLYPROC_WND.mdl,v
r--r--r-- 140/405    1208 Aug  1 15:51 1990 design/src/mmi_wnd/RCS/FLYTHRU_WND.mdl,v
r--r--r-- 140/405    1962 Aug  1 15:51 1990 design/src/mmi_wnd/RCS/FOCUSTOOL_WND.mdl,v
r--r--r-- 140/405    1211 Aug  1 15:51 1990 design/src/mmi_wnd/RCS/FPDESC_WND.mdl,v
r--r--r-- 140/405    1120 Aug  1 15:51 1990 design/src/mmi_wnd/RCS/GC_WND.mdl,v
r--r--r-- 140/405    1411 Aug  1 15:51 1990 design/src/mmi_wnd/RCS/GEOCART_WND.mdl,v
r--r--r-- 140/405     829 Aug  1 15:51 1990 design/src/mmi_wnd/RCS/GRAPHIC_WND.mdl,v
r--r--r-- 140/405    1072 Aug  1 15:51 1990 design/src/mmi_wnd/RCS/HOLDING_WND.mdl,v
r--r--r-- 140/405    1190 Aug  1 15:51 1990 design/src/mmi_wnd/RCS/IAPCHARTTOOL_WND.mdl,v
r--r--r-- 140/405     941 Aug  1 15:51 1990 design/src/mmi_wnd/RCS/IAPCHART_WND.mdl,v
r--r--r-- 140/405    1077 Aug  1 15:51 1990 design/src/mmi_wnd/RCS/IAPSPEC_WND.mdl,v
r--r--r-- 140/405    1206 Aug  1 15:51 1990 design/src/mmi_wnd/RCS/IAP_WND.mdl,v
r--r--r-- 140/405    1053 Aug  1 15:51 1990 design/src/mmi_wnd/RCS/INITIAL_WND.mdl,v
r--r--r-- 140/405    1406 Aug  1 15:51 1990 design/src/mmi_wnd/RCS/INTERX_WND.mdl,v
r--r--r-- 140/405    1067 Aug  1 15:51 1990 design/src/mmi_wnd/RCS/INTER_WND.mdl,v
r--r--r-- 140/405    1054 Aug  1 15:51 1990 design/src/mmi_wnd/RCS/MISSED_WND.mdl,v
r--r--r-- 140/405     947 Aug  1 15:51 1990 design/src/mmi_wnd/RCS/MSA_WND.mdl,v
r--r--r-- 140/405    2028 Aug  1 15:49 1990 design/src/mmi_wnd/RCS/Makefile,v
```

```
r--r--r-- 140/405   1378 Aug  1 15:51 1990 design/src/mmi_wnd/RCS/NEWPT_WND.mdl,v
r--r--r-- 140/405    879 Aug  1 15:51 1990 design/src/mmi_wnd/RCS/NORESHAPE_WND.mdl,v
r--r--r-- 140/405   1072 Aug  1 15:51 1990 design/src/mmi_wnd/RCS/OPMIN_WND.mdl,v
r--r--r-- 140/405   1046 Aug  1 15:51 1990 design/src/mmi_wnd/RCS/OVERVW_WND.mdl,v
r--r--r-- 140/405   1039 Aug  1 15:51 1990 design/src/mmi_wnd/RCS/PREVW_WND.mdl,v
r--r--r-- 140/405   1179 Aug  1 15:51 1990 design/src/mmi_wnd/RCS/PRINT_WND.mdl,v
r--r--r-- 140/405   1069 Aug  1 15:51 1990 design/src/mmi_wnd/RCS/PT_WND.mdl,v
r--r--r-- 140/405    886 Aug  1 15:51 1990 design/src/mmi_wnd/RCS/PULLDOWN_WND.mdl,v
r--r--r-- 140/405   1219 Aug  1 15:51 1990 design/src/mmi_wnd/RCS/REPORT_WND.mdl,v
r--r--r-- 140/405   1596 Aug  1 15:51 1990 design/src/mmi_wnd/RCS/RESHAPEW_WND.mdl,v
r--r--r-- 140/405   1535 Aug  1 15:51 1990 design/src/mmi_wnd/RCS/SEARCH_WND.mdl,v
r--r--r-- 140/405   1099 Aug  1 15:51 1990 design/src/mmi_wnd/RCS/SHUTTLE_WND.mdl,v
r--r--r-- 140/405   1274 Aug  1 15:51 1990 design/src/mmi_wnd/RCS/STORCONT_WND.mdl,v
r--r--r-- 140/405   1226 Aug  1 15:51 1990 design/src/mmi_wnd/RCS/STORSET_WND.mdl,v
r--r--r-- 140/405   1249 Aug  1 15:51 1990 design/src/mmi_wnd/RCS/SUMMARY_WND.mdl,v
r--r--r-- 140/405   1150 Aug  1 15:52 1990 design/src/mmi_wnd/RCS/TERMINAL_WND.mdl,v
r--r--r-- 140/405    957 Aug  1 15:52 1990 design/src/mmi_ nd/RCS/TRANS_WND.mdl,v
r--r--r-- 140/405   1078 Aug  1 15:52 1990 design/src/mmi_wnd/RCS/USERSET_WND.mdl,v
r--r--r-- 140/405   1027 Aug  1 15:52 1990 design/src/mmi_wnd/RCS/VERSION_WND.mdl,v
r--r--r-- 140/405   3216 Aug  1 15:52 1990 design/src/mmi_wnd/RCS/WINDOW.mdl,v
r--r--r-- 140/405   1543 Aug  1 15:50 1990 design/src/mmi_wnd/RCS/mdl.dir,v
r--r--r-- 140/405   1119 Aug  1 16:04 1990 design/src/mmi_wnd/REPORT_WND.mdl
r--r--r-- 140/405   1498 Aug  1 16:03 1990 design/src/mmi_wnd/RESHAPEW_WND.mdl
r--r--r-- 140/405   1435 Aug  1 16:04 1990 design/src/mmi_wnd/SEARCH_WND.mdl
r--r--r-- 140/405   1000 Aug  1 16:04 1990 design/src/mmi_wnd/SHUTTLE_WND.mdl
r--r--r-- 140/405   1176 Aug  1 16:04 1990 design/src/mmi_wnd/STORCONT_WND.mdl
r--r--r-- 140/405   1127 Aug  1 16:04 1990 design/src/mmi_wnd/STORSET_WND.mdl
r--r--r-- 140/405   1150 Aug  1 16:04 1990 design/src/mmi_wnd/SUMMARY_WND.mdl
r--r--r-- 140/405   1052 Aug  1 16:04 1990 design/src/mmi_wnd/TERMINAL_WND.mdl
r--r--r-- 140/405    856 Aug  1 16:04 1990 design/src/mmi_wnd/TRANS_WND.mdl
r--r--r-- 140/405    979 Aug  1 16:04 1990 design/src/mmi_wnd/USERSET_WND.mdl
r--r--r-- 140/405    928 Aug  1 16:03 1990 design/src/mmi_wnd/VERSION_WND.mdl
r--r--r-- 140/405   3112 Aug  1 16:03 1990 design/src/mmi_wnd/WINDOW.mdl
rw-rw-r-- 140/405   7623 Nov 15 12:33 1990 design/src/mmi_wnd/matrix.MW
r--r--r-- 140/405   1436 Aug  1 16:03 1990 design/src/mmi_wnd/mdl.dir
rw-rw-r-- 140/405  77788 Nov 15 11:33 1990 design/src/mmi_wnd/x
rwxrwxr-x 140/405 dir    Oct 26 10:38 1991 design/src/terr_db/
r--r--r-- 140/405   1136 Aug  1 16:06 1990 design/src/terr_db/DOM_CONTOUR.mdl
r--r--r-- 140/405   1141 Aug  1 16:06 1990 design/src/terr_db/DOM_PROFILE.mdl
r--r--r-- 140/405   1139 Aug  1 16:06 1990 design/src/terr_db/DOM_TERRAIN.mdl
r--r--r-- 140/405   2655 Aug  1 16:06 1990 design/src/terr_db/DTED_FILE.mdl
r--r--r-- 140/405   1494 Aug  1 16:06 1990 design/src/terr_db/DTED_REC.mdl
r--r--r-- 140/405    825 Aug  1 16:02 1990 design/src/terr_db/Makefile
rwxrwxr-x 140/405 dir    Oct 26 10:38 1991 design/src/terr_db/RCS/
r--r--r-- 140/405   1237 Aug  1 15:27 1990 design/src/terr_db/RCS/DOM_CONTOUR.mdl,v
r--r--r-- 140/405   1240 Aug  1 15:27 1990 design/src/terr_db/RCS/DOM_PROFILE.mdl,v
r--r--r-- 140/405   1238 Aug  1 15:27 1990 design/src/terr_db/RCS/DOM_TERRAIN.mdl,v
r--r--r-- 140/405   2756 Aug  1 15:27 1990 design/src/terr_db/RCS/DTED_FILE.mdl,v
r--r--r-- 140/405   1596 Aug  1 15:27 1990 design/src/terr_db/RCS/DTED_REC.mdl,v
r--r--r-- 140/405   1021 Aug  1 15:26 1990 design/src/terr_db/RCS/Makefile,v
r--r--r-- 140/405   1100 Aug  1 15:27 1990 design/src/terr_db/RCS/SUPBLK.mdl,v
r--r--r-- 140/405   1762 Aug  1 15:27 1990 design/src/terr_db/RCS/SUPBLK_CONTOUR.mdl,v
r--r--r-- 140/405   1800 Aug  1 15:27 1990 design/src/terr_db/RCS/SUPBLK_TERRAIN.mdl,v
```

```
r--r--r-- 140/405    1994 Aug  1 15:27 1990 design/src/terr_db/RCS/TERDB_DTEDS.mdl,v
r--r--r-- 140/405    1684 Aug  1 15:27 1990 design/src/terr_db/RCS/TERDB_SUPBLKS.mdl,v
r--r--r-- 140/405     790 Aug  1 15:26 1990 design/src/terr_db/RCS/mdl.dir,v
r--r--r-- 140/405     996 Aug  1 16:06 1990 design/src/terr_db/SUPBLK.mdl
r--r--r-- 140/405    1666 Aug  1 16:06 1990 design/src/terr_db/SUPBLK_CONTOUR.mdl
r--r--r-- 140/405    1704 Aug  1 16:06 1990 design/src/terr_db/SUPBLK_TERRAIN.mdl
r--r--r-- 140/405    1895 Aug  1 16:06 1990 design/src/terr_db/TERDB_DTEDS.mdl
r--r--r-- 140/405    1587 Aug  1 16:06 1990 design/src/terr_db/TERDB_SUPBLKS.mdl
rw-rw-r-- 140/405    2541 Nov 15 12:35 1990 design/src/terr_db/matrix.TD
r--r--r-- 140/405     683 Aug  1 16:06 1990 design/src/terr_db/mdl.dir
rw-rw-r-- 140/405   17966 Nov 15 12:35 1990 design/src/terr_db/x
rwxrwxr-x 140/405 dir     Oct 26 10:38 1991 design/src/util/
r--r--r-- 140/405    1144 Aug  1 16:03 1990 design/src/util/2D_GEO_ARC.mdl
r--r--r-- 140/405    1044 Aug  1 16:03 1990 design/src/util/2D_GEO_CIRCLE.mdl
r--r--r-- 140/405     812 Aug  1 16:03 1990 design/src/util/2D_GEO_LINE.mdl
r--r--r-- 140/405    1592 Aug  1 16:03 1990 design/src/util/2D_GEO_POLY.mdl
r--r--r-- 140/405     851 Aug  1 16:03 1990 design/src/util/2D_GEO_POLYLINE.mdl
r--r--r-- 140/405    1898 Aug  1 16:03 1990 design/src/util/2D_GEO_POS.mdl
r--r--r-- 140/405     829 Aug  1 16:03 1990 design/src/util/2D_GEO_RDL.mdl
r--r--r-- 140/405     902 Aug  1 16:03 1990 design/src/util/2D_GEO_RECT.mdl
r--r--r-- 140/405     845 Aug  1 16:03 1990 design/src/util/2D_GEO_SPLINE.mdl
r--r--r-- 140/405     927 Aug  1 16:03 1990 design/src/util/3D_GEO_BOX.mdl
r--r--r-- 140/405    1121 Aug  1 16:03 1990 design/src/util/3D_GEO_CONE.mdl
r--r--r-- 140/405    1075 Aug  1 16:03 1990 design/src/util/3D_GEO_CYL.mdl
r--r--r-- 140/405    1301 Aug  1 16:03 1990 design/src/util/3D_GEO_POLY.mdl
r--r--r-- 140/405     830 Aug  1 16:03 1990 design/src/util/3D_GEO_POLYLINE.mdl
r--r--r-- 140/405    1145 Aug  1 16:03 1990 design/src/util/3D_GEO_POS.mdl
r--r--r-- 140/405     822 Aug  1 16:03 1990 design/src/util/3D_GEO_PRIM.mdl
r--r--r-- 140/405     758 Aug  1 16:03 1990 design/src/util/3D_GEO_PRISM.mdl
r--r--r-- 140/405     870 Aug  1 16:03 1990 design/src/util/3D_GEO_PYR.mdl
r--r--r-- 140/405     971 Aug  1 16:03 1990 design/src/util/3D_GEO_SPHERE.mdl
r--r--r-- 140/405     757 Aug  1 16:03 1990 design/src/util/3D_GEO_SPLSURF.mdl
r--r--r-- 140/405     813 Aug  1 16:03 1990 design/src/util/3D_GEO_VECTOR.mdl
r--r--r-- 140/405     891 Aug  1 16:03 1990 design/src/util/AIRCRAFT.mdl
r--r--r-- 140/405    1160 Aug  1 16:03 1990 design/src/util/AIRCRAFT_CAT.mdl
r--r--r-- 140/405    1423 Aug  1 16:03 1990 design/src/util/ASCII_GEO.mdl
r--r--r-- 140/405    1069 Aug  1 16:03 1990 design/src/util/BRG.mdl
r--r--r-- 140/405    1808 Aug  1 16:03 1990 design/src/util/CLIP_BOARD.mdl
r--r--r-- 140/405    1306 Aug  1 16:03 1990 design/src/util/CLIP_ITEM.mdl
r--r--r-- 140/405    1083 Aug  1 16:03 1990 design/src/util/CLIP_ITEM_DATA.mdl
r--r--r-- 140/405     989 Aug  1 16:03 1990 design/src/util/CLIP_ITEM_ID.mdl
r--r--r-- 140/405     896 Aug  1 16:03 1990 design/src/util/CLIP_ITEM_KEY.mdl
r--r--r-- 140/405     900 Aug  1 16:03 1990 design/src/util/DATA_BLK.mdl
r--r--r-- 140/405    1514 Aug  1 16:03 1990 design/src/util/EARTH_MODEL.mdl
r--r--r-- 140/405    1485 Aug  1 16:03 1990 design/src/util/FASCII_GEO.mdl
r--r--r-- 140/405    1211 Aug  1 16:03 1990 design/src/util/FILE.mdl
r--r--r-- 140/405    1284 Aug  1 16:03 1990 design/src/util/FIX.mdl
r--r--r-- 140/405    2008 Aug  1 16:03 1990 design/src/util/FLOAT_UNIT.mdl
r--r--r-- 140/405    4982 Aug  1 16:03 1990 design/src/util/GEODESIC.mdl
r--r--r-- 140/405    1179 Aug  1 16:03 1990 design/src/util/GEOREF_POS.mdl
r--r--r-- 140/405    1185 Aug  1 16:03 1990 design/src/util/GEO_BOX.mdl
r--r--r-- 140/405    1232 Aug  1 16:03 1990 design/src/util/GEO_VIEWPORT.mdl
r--r--r-- 140/405    1775 Aug  1 16:03 1990 design/src/util/MAG_VAR.mdl
```

```
r--r--r-- 140/405    1439 Aug  1 16:03 1990 design/src/util/MAP_PROJECT.mdl
r--r--r-- 140/405    1608 Aug  1 16:02 1990 design/src/util/Makefile
rwxrwxr-x 140/405 dir     Oct 26 10:38 1991 design/src/util/RCS/
r--r--r-- 140/405    1247 Aug  1 15:08 1990 design/src/util/RCS/2D_GEO_ARC.mdl,v
r--r--r-- 140/405    1144 Aug  1 15:08 1990 design/src/util/RCS/2D_GEO_CIRCLE.mdl,v
r--r--r-- 140/405     914 Aug  1 15:08 1990 design/src/util/RCS/2D_GEO_LINE.mdl,v
r--r--r-- 140/405    1694 Aug  1 15:08 1990 design/src/util/RCS/2D_GEO_POLY.mdl,v
r--r--r-- 140/405     949 Aug  1 15:08 1990 design/src/util/RCS/2D_GEO_POLYLINE.mdl,v
r--r--r-- 140/405    2001 Aug  1 15:08 1990 design/src/util/RCS/2D_GEO_POS.mdl,v
r--r--r-- 140/405     932 Aug  1 15:08 1990 design/src/util/RCS/2D_GEO_RDL.mdl,v
r--r--r-- 140/405    1004 Aug  1 15:08 1990 design/src/util/RCS/2D_GEO_RECT.mdl,v
r--r--r-- 140/405     945 Aug  1 15:08 1990 design/src/util/RCS/2D_GEO_SPLINE.mdl,v
r--r--r-- 140/405    1030 Aug  1 15:08 1990 design/src/util/RCS/3D_GEO_BOX.mdl,v
r--r--r-- 140/405    1223 Aug  1 15:08 1990 design/src/util/RCS/3D_GEO_CONE.mdl,v
r--r--r-- 140/405    1178 Aug  1 15:08 1990 design/src/util/RCS/3D_GEO_CYL.mdl,v
r--r--r-- 140/405    1403 Aug  1 15:09 1990 design/src/util/RCS/3D_GEO_POLY.mdl,v
r--r--r-- 140/405     928 Aug  1 15:09 1990 design/src/util/RCS/3D_GEO_POLYLINE.mdl,v
r--r--r-- 140/405    1248 Aug  1 15:09 1990 design/src/util/RCS/3D_GEO_POS.mdl,v
r--r--r-- 140/405     924 Aug  1 15:09 1990 design/src/util/RCS/3D_GEO_PRIM.mdl,v
r--r--r-- 140/405     859 Aug  1 15:09 1990 design/src/util/RCS/3D_GEO_PRISM.mdl,v
r--r--r-- 140/405     973 Aug  1 15:09 1990 design/src/util/RCS/3D_GEO_PYR.mdl,v
r--r--r-- 140/405    1071 Aug  1 15:09 1990 design/src/util/RCS/3D_GEO_SPHERE.mdl,v
r--r--r-- 140/405     856 Aug  1 15:09 1990 design/src/util/RCS/3D_GEO_SPLSURF.mdl,v
r--r--r-- 140/405     913 Aug  1 15:09 1990 design/src/util/RCS/3D_GEO_VECTOR.mdl,v
r--r--r-- 140/405     996 Aug  1 15:09 1990 design/src/util/RCS/AIRCRAFT.mdl,v
r--r--r-- 140/405    1261 Aug  1 15:09 1990 design/src/util/RCS/AIRCRAFT_CAT.mdl,v
r--r--r-- 140/405    1527 Aug  1 15:09 1990 design/src/util/RCS/ASCII_GEO.mdl,v
r--r--r-- 140/405    1179 Aug  1 15:09 1990 design/src/util/RCS/BRG.mdl,v
r--r--r-- 140/405    1911 Aug  1 15:09 1990 design/src/util/RCS/CLIP_BOARD.mdl,v
r--r--r-- 140/405    1410 Aug  1 15:09 1990 design/src/util/RCS/CLIP_ITEM.mdl,v
r--r--r-- 140/405    1182 Aug  1 15:09 1990 design/src/util/RCS/CLIP_ITEM_DATA.mdl,v
r--r--r-- 140/405    1090 Aug  1 15:19 1990 design/src/util/RCS/CLIP_ITEM_ID.mdl,v
r--r--r-- 140/405     996 Aug  1 15:19 1990 design/src/util/RCS/CLIP_ITEM_KEY.mdl,v
r--r--r-- 140/405    1005 Aug  1 15:19 1990 design/src/util/RCS/DATA_BLK.mdl,v
r--r--r-- 140/405    1615 Aug  1 15:19 1990 design/src/util/RCS/EARTH_MODEL.mdl,v
r--r--r-- 140/405    1588 Aug  1 15:19 1990 design/src/util/RCS/FASCII_GEO.mdl,v
r--r--r-- 140/405    1320 Aug  1 15:19 1990 design/src/util/RCS/FILE.mdl,v
r--r--r-- 140/405    1394 Aug  1 15:19 1990 design/src/util/RCS/FIX.mdl,v
r--r--r-- 140/405    2111 Aug  1 15:19 1990 design/src/util/RCS/FLOAT_UNIT.mdl,v
r--r--r-- 140/405    5087 Aug  1 15:19 1990 design/src/util/RCS/GEODESIC.mdl,v
r--r--r-- 140/405    1282 Aug  1 15:19 1990 design/src/util/RCS/GEOREF_POS.mdl,v
r--r--r-- 140/405    1291 Aug  1 15:19 1990 design/src/util/RCS/GEO_BOX.mdl,v
r--r--r-- 140/405    1333 Aug  1 15:19 1990 design/src/util/RCS/GEO_VIEWPORT.mdl,v
r--r--r-- 140/405    1881 Aug  1 15:19 1990 design/src/util/RCS/MAG_VAR.mdl,v
r--r--r-- 140/405    1541 Aug  1 15:19 1990 design/src/util/RCS/MAP_PROJECT.mdl,v
r--r--r-- 140/405    1807 Aug  1 15:08 1990 design/src/util/RCS/Makefile,v
r--r--r-- 140/405    1841 Aug  1 15:19 1990 design/src/util/RCS/SCR_POS.mdl,v
r--r--r-- 140/405    1103 Aug  1 15:19 1990 design/src/util/RCS/TRANS_ITEM.mdl,v
r--r--r-- 140/405     974 Aug  1 15:20 1990 design/src/util/RCS/TXT_BLK.mdl,v
r--r--r-- 140/405    1166 Aug  1 15:20 1990 design/src/util/RCS/TXT_STR.mdl,v
r--r--r-- 140/405    1483 Aug  1 15:20 1990 design/src/util/RCS/UTM_POS.mdl,v
r--r--r-- 140/405    1226 Aug  1 15:20 1990 design/src/util/RCS/VIEWPORT.mdl,v
r--r--r-- 140/405    1126 Aug  1 15:20 1990 design/src/util/RCS/XYZ_POS.mdl,v
```

```
r--r--r-- 140/405    2488 Aug  1 15:20 1990 design/src/util/RCS/XY_POS.mdl,v
r--r--r-- 140/405    1376 Aug  1 15:08 1990 design/src/util/RCS/mdl.dir,v
r--r--r-- 140/405    1735 Aug  1 16:03 1990 design/src/util/SCR_POS.mdl
r--r--r-- 140/405    1000 Aug  1 16:03 1990 design/src/util/TRANS_ITEM.mdl
r--r--r-- 140/405     868 Aug  1 16:03 1990 design/src/util/TXT_BLK.mdl
r--r--r-- 140/405    1060 Aug  1 16:03 1990 design/src/util/TXT_STR.mdl
r--r--r-- 140/405    1377 Aug  1 16:03 1990 design/src/util/UTM_POS.mdl
r--r--r-- 140/405    1121 Aug  1 16:03 1990 design/src/util/VIEWPORT.mdl
r--r--r-- 140/405    1020 Aug  1 16:03 1990 design/src/util/XYZ_POS.mdl
r--r--r-- 140/405    2381 Aug  1 16:03 1990 design/src/util/XY_POS.mdl
rw-rw-r-- 140/405    6545 Nov 15 12:35 1990 design/src/util/matrix.U
r--r--r-- 140/405    1266 Aug  1 16:03 1990 design/src/util/mdl.dir
rw-rw-r-- 140/405   69283 Nov 15 12:35 1990 design/src/util/x
rwxrwxr-x 140/405 dir     Oct 26 10:38 1991 design/src/work_db/
r--r--r-- 140/405    2466 Aug  1 16:06 1990 design/src/work_db/MMI_STATE.mdl
r--r--r-- 140/405     867 Aug  1 16:02 1990 design/src/work_db/Makefile
rwxrwxr-x 140/405 dir     Oct 26 10:38 1991 design/src/work_db/RCS/
r--r--r-- 140/405    2567 Aug  1 15:34 1990 design/src/work_db/RCS/MMI_STATE.mdl,v
r--r--r-- 140/405    1059 Aug  1 15:33 1990 design/src/work_db/RCS/Makefile,v
r--r--r-- 140/405    1492 Aug  1 15:34 1990 design/src/work_db/RCS/USERSETFILE.mdl,v
r--r--r-- 140/405    1449 Aug  1 15:34 1990 design/src/work_db/RCS/USR_MMI_STATE.mdl,v
r--r--r-- 140/405    1792 Aug  1 15:34 1990 design/src/work_db/RCS/WORKFILE.mdl,v
r--r--r - 140/405    1379 Aug  1 15:34 1990 design/src/work_db/RCS/WRK_DATA_STATE.mdl,v
r--r--r-- 140/405    1282 Aug  1 15:34 1990 design/src/work_db/RCS/WRK_FPD_STATE.mdl,v
r--r--r-- 140/405    2497 Aug  1 15:34 1990 design/src/work_db/RCS/WRK_GRAPH_STATE.mdl,v
r--r--r-- 140/405    1337 Aug  1 15:34 1990 design/src/work_db/RCS/WRK_MMI_STATE.mdl,v
r--r--r-- 140/405    2918 Aug  1 15:34 1990 design/src/work_db/RCS/WRK_SESSION_STATE.mdl,v
r--r--r-- 140/405    1672 Aug  1 15:34 1990 design/src/work_db/RCS/WRK_SYS_STATE.mdl,v
r--r--r-- 140/405    1280 Aug  1 15:34 1990 design/src/work_db/RCS/WRK_UTIL_STATE.mdl,v
r--r--r-- 140/405     827 Aug  1 15:33 1990 design/src/work_db/RCS/mdl.dir,v
r--r--r-- 140/405    1393 Aug  1 16:06 1990 design/src/work_db/USERSETFILE.mdl
r--r--r-- 140/405    1352 Aug  1 16:06 1990 design/src/work_db/USR_MMI_STATE.mdl
r--r--r-- 140/405    1690 Aug  1 16:06 1990 design/src/work_db/WORKFILE.mdl
r--r--r-- 140/405    1283 Aug  1 16:06 1990 design/src/work_db/WRK_DATA_STATE.mdl
r--r--r-- 140/405    1185 Aug  1 16:06 1990 design/src/work_db/WRK_FPD_STATE.mdl
r--r--r-- 140/405    2402 Aug  1 16:06 1990 design/src/work_db/WRK_GRAPH_STATE.mdl
r--r--r-- 140/405    1240 Aug  1 16:06 1990 design/src/work_db/WRK_MMI_STATE.mdl
r--r--r-- 140/405    2825 Aug  1 16:06 1990 design/src/work_db/WRK_SESSION_STATE.mdl
r--r--r-- 140/405    1575 Aug  1 16:06 1990 design/src/work_db/WRK_SYS_STATE.mdl
r--r--r-- 140/405    1184 Aug  1 16:06 1990 design/src/work_db/WRK_UTIL_STATE.mdl
rw-rw-r-- 140/405    2618 Nov 15 12:36 1990 design/src/work_db/matrix.WD
r--r--r-- 140/405     720 Aug  1 16:06 1990 design/src/work_db/mdl.dir
rw-rw-r-- 140/405   21224 Nov 15 12:36 1990 design/src/work_db/x
rwxrwxrwx 201/405 dir     Oct 26 10:34 1991 src/
r-xr-xr-x 140/405    5289 Jul 10 09:17 1991 src/Make
rw-rw-r-- 140/405    9278 Oct  8 03:37 1991 src/Make.log
r--r--r-- 140/405    1430 Sep  8 16:26 1991 src/Makefile
rwxrwxr-x 201/405 dir     Oct 26 10:34 1991 src/RCS/
r-xr-xr-x 140/405    7093 Jul 10 09:17 1991 src/RCS/Make,v
r--r--r-- 201/405    7038 Jul 29 13:36 1991 src/RCS/Makefile,v
rwxrwxr-x 201/405 dir     Oct 26 10:32 1991 src/data/
r--r--r-- 201/405    4346 Oct  7 03:30 1991 src/data/Makefile
rw-rw-r-- 201/405   85052 Oct  7 03:34 1991 src/data/Makefile.d
```

```
rwxrwxr-x 201/405 dir     Oct 26 10:32 1991 src/data/RCS/
r--r--r-- 140/405    9797 Sep  8 16:29 1991 src/data/RCS/Makefile,v
r--r--r-- 140/405    3704 Sep  8 15:41 1991 src/data/RCS/conversion.h,v
r--r--r-- 140/405    6075 Sep  8 15:43 1991 src/data/RCS/data.h+ +,v
r--r--r-- 118/405    5609 Aug 15 17:16 1991 src/data/RCS/data_err.txt,v
r--r--r-- 140/405   18615 Sep  8 15:41 1991 src/data/RCS/db_ades.c+ +,v
r--r--r-- 140/405   10737 Sep  8 15:41 1991 src/data/RCS/db_ades.h+ +,v
r--r--r-- 118/405   15559 Sep 20 17:58 1991 src/data/RCS/db_inx.ec,v
r--r--r-- 140/405    6061 Sep  8 15:41 1991 src/data/RCS/db_inx.h,v
r--r--r-- 140/405   36566 Sep  8 15:41 1991 src/data/RCS/dom.c+ +,v
r--r--r-- 140/405   11848 Sep  8 15:41 1991 src/data/RCS/dom.h+ +,v
r--r--r-- 140/405   35259 Sep  8 15:42 1991 src/data/RCS/dom_class.c+ +,v
r--r--r-- 140/405   11808 Sep  8 15:42 1991 src/data/RCS/dom_class.h+ +,v
r--r--r-- 140/405   18144 Sep  8 15:42 1991 src/data/RCS/dom_class_fld.c+ +,v
r--r--r-- 140/405   10760 Sep  8 15:42 1991 src/data/RCS/dom_class_fld.h+ +,v
r--r--r-- 140/405    5161 Sep  8 15:42 1991 src/data/RCS/dom_class_fld_lst.h+ +,v
r--r--r-- 140/405    5127 Sep  8 15:42 1991 src/data/RCS/dom_class_lst.h+ +,v
r--r--r-- 140/405    8604 Sep  8 15:42 1991 src/data/RCS/dom_design.c+ +,v
r--r--r-- 140/405    6478 Sep  8 15:43 1991 src/data/RCS/dom_design.h+ +,v
r--r--r-- 140/405    7868 Sep  8 15:42 1991 src/data/RCS/dom_fcs.c+ +,v
r--r--r-- 140/405    6297 Sep  8 15:42 1991 src/data/RCS/dom_fcs.h+ +,v
r--r--r-- 140/405   16756 Sep  8 15:42 1991 src/data/RCS/dom_obj.c+ +,v
r--r--r-- 140/405    8419 Sep  8 15:42 1991 src/data/RCS/dom_obj.h+ +,v
r--r--r-- 140/405    3727 Sep  8 15:42 1991 src/data/RCS/dom_obj_id_lst.h+ +,v
r--r--r-- 140/405    4986 Sep  8 15:42 1991 src/data/RCS/dom_obj_lst.h+ +,v
r--r--r-- 140/405     458 Sep  8 15:43 1991 src/data/RCS/edit_para.h+ +,v
r--r--r-- 140/405    6807 Sep  8 15:42 1991 src/data/RCS/form_fld.h+ +,v
r--r--r-- 140/405    4948 Sep  8 15:42 1991 src/data/RCS/form_fld_lst.h+ +,v
r--r--r-- 140/405    3320 Sep  8 15:42 1991 src/data/RCS/inx_xt.h,v
r--r--r-- 140/405    6709 Sep  8 15:42 1991 src/data/RCS/obj_form.h+ +,v
r--r--r-- 201/405    3131 Oct  7 03:32 1991 src/data/conversion.h
r--r--r-- 201/405    4190 Oct  7 03:31 1991 src/data/data.h+ +
r--r--r-- 201/405    7390 Oct  7 03:31 1991 src/data/data_err.h+ +
r--r--r-- 201/405    3729 Oct  7 03:31 1991 src/data/data_err.txt
r--r--r-- 201/405   16189 Oct  7 03:31 1991 src/data/db_ades.c+ +
r--r--r-- 201/405   10223 Oct  7 03:32 1991 src/data/db_ades.h+ +
rw-rw-r-- 201/405   14224 Oct  7 03:31 1991 src/data/db_inx.c
r--r--r-- 201/405   13822 Oct  7 03:31 1991 src/data/db_inx.ec
r--r--r-- 201/405    5476 Oct  7 03:32 1991 src/data/db_inx.h
r--r--r-- 201/405   29843 Oct  7 03:31 1991 src/data/dom.c+ +
r--r--r-- 201/405    9949 Oct  7 03:31 1991 src/data/dom.h+ +
r--r--r-- 201/405   28912 Oct  7 03:31 1991 src/data/dom_class.c+ +
r--r--r-- 201/405    9153 Oct  7 03:32 1991 src/data/dom_class.h+ +
r--r--r-- 201/405   14338 Oct  7 03:31 1991 src/data/dom_class_fld.c+ +
r--r--r-- 201/405    9010 Oct  7 03:32 1991 src/data/dom_class_fld.h+ +
r--r--r-- 201/405    4131 Oct  7 03:32 1991 src/data/dom_class_fld_lst.h+ +
r--r--r-- 201/405    4121 Oct  7 03:32 1991 src/data/dom_class_lst.h+ +
r--r--r-- 201/405    4690 Oct  7 03:31 1991 src/data/dom_design.c+ +
r--r--r-- 201/405    5440 Oct  7 03:32 1991 src/data/dom_design.h+ +
r--r--r-- 201/405    3973 Oct  7 03:31 1991 src/data/dom_fcs.c+ +
r--r--r-- 201/405    4967 Oct  7 03:32 1991 src/data/dom_fcs.h+ +
r--r--r-- 201/405   12514 Oct  7 03:31 1991 src/data/dom_obj.c+ +
r--r--r-- 201/405    6871 Oct  7 03:32 1991 src/data/dom_obj.h+ +
```

```
r--r--r-- 201/405    3281 Oct  7 03:32 1991 src/data/dom_obj_id_lst.h++
r--r--r-- 201/405    3998 Oct  7 03:32 1991 src/data/dom_obj_lst.h++
r--r--r-- 201/405     179 Oct  7 03:32 1991 src/data/edit_para.h++
r--r--r-- 201/405    5672 Oct  7 03:32 1991 src/data/form_fld.h++
r--r--r-- 201/405    4008 Oct  7 03:32 1991 src/data/form_fld_lst.h++
r--r--r-- 201/405    3001 Oct  7 03:32 1991 src/data/inx_xt.h
r--r--r-- 201/405    5558 Oct  7 03:32 1991 src/data/obj_form.h++
rwxrwxrwx 140/405 dir      Oct 26 10:33 1991 src/db/
r--r--r-- 201/405  263074 Oct  4 12:27 1991 src/db/ARINC.data
rw-rw-r-- 201/405     383 Oct  4 12:27 1991 src/db/ARINC.spec
rw-rw-r-- 201/405    2432 Oct  4 12:25 1991 src/db/B.frm
rw-rw-r-- 201/405    6761 Oct  4 12:25 1991 src/db/B_desc.frm
rw-rw-r-- 201/405     872 Oct  4 12:25 1991 src/db/CU.frm
rw-rw-r-- 201/405    3924 Oct  4 12:25 1991 src/db/CUB.frm
rw-rw-r-- 201/405   11075 Oct  4 12:25 1991 src/db/CUB_desc.frm
rw-rw-r-- 201/405    2415 Oct  4 12:25 1991 src/db/CU_desc.frm
rw-rw-r-- 201/405    1903 Oct  4 12:26 1991 src/db/D.arc
rw-rw-r-- 201/405     733 Oct  4 12:24 1991 src/db/D.fld
rw-rw-r-- 201/405    6379 Oct  4 12:25 1991 src/db/D.frm
rw-rw-r-- 201/405    1126 Oct  4 12:26 1991 src/db/DB.arc
rw-rw-r-- 201/405     412 Oct  4 12:24 1991 src/db/DB.fld
rw-rw-r-- 201/405    4222 Oct  4 12:25 1991 src/db/DB.frm
rw-rw-r-- 201/405   11325 Oct  4 12:25 1991 src/db/DB_desc.frm
rw-rw-r-- 201/405   17339 Oct  4 12:25 1991 src/db/D_desc.frm
rw-rw-r-- 201/405    1274 Oct  4 12:26 1991 src/db/EA.arc
rw-rw-r-- 201/405     365 Oct  4 12:24 1991 src/db/EA.fld
rw-rw-r-- 201/405    3256 Oct  4 12:25 1991 src/db/EA.frm
rw-rw-r-- 201/405    8935 Oct  4 12:25 1991 src/db/EA_desc.frm
rw-rw-r-- 201/405     730 Oct  4 12:26 1991 src/db/EP.arc
rw-rw-r-- 201/405     219 Oct  4 12:24 1991 src/db/EP.fld
rw-rw-r-- 201/405    2115 Oct  4 12:25 1991 src/db/EP.frm
rw-rw-r-- 201/405    5781 Oct  4 12:25 1991 src/db/EP_desc.frm
rw-rw-r-- 201/405      80 Oct  4 12:24 1991 src/db/ER.fld
rw-rw-r-- 201/405    3762 Oct  4 12:25 1991 src/db/ER.frm
rw-rw-r-- 201/405    1636 Oct  4 12:26 1991 src/db/ERL.arc
rw-rw-r-- 201/405     310 Oct  4 12:24 1991 src/db/ERL.fld
rw-rw-r-- 201/405     124 Oct  4 12:24 1991 src/db/ERS.fld
rw-rw-r-- 201/405   10241 Oct  4 12:25 1991 src/db/ER_desc.frm
rw-rw-r-- 201/405    2973 Oct  4 12:25 1991 src/db/F.frm
rw-rw-r-- 201/405    8248 Oct  4 12:25 1991 src/db/F_desc.frm
rw-rw-r-- 201/405    4094 Oct  4 12:25 1991 src/db/H.frm
rw-rw-r-- 201/405   11574 Oct  4 12:25 1991 src/db/H_desc.frm
rw-rw-r-- 201/405    4229 Oct  4 12:25 1991 src/db/MMO.frm
rw-rw-r-- 201/405   11954 Oct  4 12:25 1991 src/db/MMO_desc.frm
rw-rw-r-- 201/405    4258 Oct  4 12:25 1991 src/db/MRB.frm
rw-rw-r-- 201/405   11859 Oct  4 12:25 1991 src/db/MRB_desc.frm
rw-rw-r-- 140/405    7009 Sep 12 04:11 1991 src/db/Makefile
rw-rw-r-- 201/405    2803 Oct  4 12:25 1991 src/db/OML.frm
rw-rw-r-- 201/405    7717 Oct  4 12:25 1991 src/db/OML_desc.frm
rw-rw-r-- 201/405     969 Oct  4 12:26 1991 src/db/PA.arc
rw-rw-r-- 201/405     391 Oct  4 12:24 1991 src/db/PA.fld
rw-rw-r-- 201/405    4039 Oct  4 12:25 1991 src/db/PA.frm
rw-rw-r-- 201/405   11369 Oct  4 12:25 1991 src/db/PA_desc.frm
```

```
rw-rw-r-- 201/405    1267 Oct  4 12:26 1991 src/db/PC.arc
rw-rw-r-- 201/405     394 Oct  4 12:24 1991 src/db/PC.fld
rw-rw-r-- 201/405    2979 Oct  4 12:25 1991 src/db/PC.frm
rw-rw-r-- 201/405    8162 Oct  4 12:25 1991 src/db/PC_desc.frm
rw-rw-r-- 201/405     458 Oct  4 12:24 1991 src/db/PF.fld
rw-rw-r-- 201/405    5166 Oct  4 12:25 1991 src/db/PF.frm
rw-rw-r-- 201/405    1984 Oct  4 12:26 1991 src/db/PFS.arc
rw-rw-r-- 201/405     393 Oct  4 12:24 1991 src/db/PFS.fld
rw-rw-r-- 201/405   14662 Oct  4 12:25 1991 src/db/PF_desc.frm
rw-rw-r-- 201/405    1298 Oct  4 12:26 1991 src/db/PG.arc
rw-rw-r-- 201/405     465 Oct  4 12:24 1991 src/db/PG.fld
rw-rw-r-- 201/405    4563 Oct  4 12:25 1991 src/db/PG.frm
rw-rw-r-- 201/405   12753 Oct  4 12:25 1991 src/db/PG_desc.frm
rw-rw-r-- 201/405    1532 Oct  4 12:26 1991 src/db/PI.arc
rw-rw-r-- 201/405     725 Oct  4 12:24 1991 src/db/PI.fld
rw-rw-r-- 201/405    5651 Oct  4 12:25 1991 src/db/PI.frm
rw-rw-r-- 201/405   15625 Oct  4 12:25 1991 src/db/PI_desc.frm
rw-rw-r-- 201/405    1707 Oct  4 12:26 1991 src/db/PL.arc
rw-rw-r-- 201/405     841 Oct  4 12:24 1991 src/db/PL.fld
rw-rw-r-- 201/405    9650 Oct  4 12:25 1991 src/db/PL.frm
rw-rw-r-- 201/405   26299 Oct  4 12:25 1991 src/db/PL_desc.frm
rw-rw-r-- 201/405    1701 Oct  4 12:26 1991 src/db/PM.arc
rw-rw-r-- 201/405     795 Oct  4 12:24 1991 src/db/PM.fld
rw-rw-r-- 201/405    5697 Oct  4 12:26 1991 src/db/PM.frm
rw-rw-r-- 201/405   15550 Oct  4 12:26 1991 src/db/PM_desc.frm
rw-rw-r-- 201/405     993 Oct  4 12:26 1991 src/db/PS.arc
rw-rw-r-- 201/405      93 Oct  4 12:24 1991 src/db/PS.fld
rw-rw-r-- 201/405    1633 Oct  4 12:26 1991 src/db/PS.frm
rw-rw-r-- 201/405      70 Oct  4 12:24 1991 src/db/PSL.fld
rw-rw-r-- 201/405    4509 Oct  4 12:26 1991 src/db/PS_desc.frm
rw-rw-r-- 201/405    1136 Oct  4 12:26 1991 src/db/RAL.frm
rw-rw-r-- 201/405    3138 Oct  4 12:26 1991 src/db/RAL_desc.frm
rwxrwxrwx 140/405 dir     Oct 26 10:32 1991 src/db/RCS/
r--r--r-- 140/405    7320 Sep 12 12:26 1991 src/db/RCS/Makefile,v
r--r--r-- 140/405    1722 Sep 12 12:30 1991 src/db/RCS/README,v
r--r--r-- 140/405    1519 Sep 12 12:30 1991 src/db/README
rw-rw-r-- 201/405    4552 Oct  4 12:26 1991 src/db/SPB.frm
rw-rw-r-- 201/405   12675 Oct  4 12:26 1991 src/db/SPB_desc.frm
rw-rw-r-- 201/405    4641 Oct  4 12:26 1991 src/db/TB.frm
rw-rw-r-- 201/405   25047 Oct  4 12:22 1991 src/db/TBL_DATA.sql
rw-rw-r-- 201/405  104350 Oct  4 12:22 1991 src/db/TBL_DESC.sql
rw-rw-r-- 201/405   12926 Oct  4 12:26 1991 src/db/TB_desc.frm
rw-rw-r-- 201/405     235 Oct  4 12:24 1991 src/db/UF.fld
rw-rw-r-- 201/405    1677 Oct  4 12:26 1991 src/db/UFB.arc
rw-rw-r-- 201/405     478 Oct  4 12:24 1991 src/db/UFB.fld
rw-rw-r-- 201/405    5112 Oct  4 12:26 1991 src/db/UFB.frm
rw-rw-r-- 201/405   14104 Oct  4 12:26 1991 src/db/UFB_desc.frm
rw-rw-r-- 201/405   10784 Oct  4 12:26 1991 src/db/UR.err
rw-rw-r-- 201/405     236 Oct  4 12:24 1991 src/db/UR.fld
rw-rw-r-- 201/405    7827 Oct  4 12:26 1991 src/db/UR.frm
rw-rw-r-- 201/405    1607 Oct  4 12:26 1991 src/db/URB.arc
rw-rw-r-- 201/405     443 Oct  4 12:24 1991 src/db/URB.fld
rw-rw-r-- 201/405     312 Oct  4 12:26 1991 src/db/URT.arc
```

```
rw-rw-r-- 201/405     256 Oct  4 12:24 1991 src/db/URT.fld
rw-rw-r-- 201/405   21324 Oct  4 12:26 1991 src/db/UR_desc.frm
rw-rw-r-- 201/405    2586 Oct  4 12:26 1991 src/db/WF.frm
rw-rw-r-- 201/405    7267 Oct  4 12:26 1991 src/db/WF_desc.frm
rwxrwx--- 201/994 dir     Oct 26 10:33 1991 src/db/ades.dbs/
rw-rw-r-- 201/405   12944 Oct  4 12:25 1991 src/db/d.ER.err
rw-rw-r-- 201/405   14317 Oct  4 12:25 1991 src/db/d.MRB.err
rw-rw-r-- 201/405   16991 Oct  4 12:25 1991 src/db/d.PF.err
rw-rw-r-- 201/405    7041 Oct  4 12:26 1991 src/db/d.PS.err
rw-rw-r-- 201/405   15171 Oct  4 12:26 1991 src/db/d.SPB.err
rw-rw-r-- 201/405   15177 Oct  4 12:26 1991 src/db/d.TB.err
rw-rw-r-- 201/405   16545 Oct  4 12:26 1991 src/db/d.UFB.err
rw-rw-r-- 201/405   25116 Oct  4 12:26 1991 src/db/d.UR.err
rwxrwxr-x 201/405  245020 Oct  4 12:23 1991 src/db/dload
rwxrwxr-x 159/405  244992 Sep 27 11:40 1991 src/db/dload_tmp
rwxrwxr-x 201/405 dir     Oct 26 10:32 1991 src/db/softinc/
---------  0/0        0 Oct 26 10:32 1991 src/db/softinc/arglist.h symbolic link to
/user/project/vpi/src/include/arglist.h
rw-rw-r-- 201/405     831 Oct  4 12:22 1991 src/db/softinc/comp_flds.c.dep
---------  0/0        0 Oct 26 10:32 1991 src/db/softinc/ctools.h symbolic link to
/k.user/informix/incl/ctools.h
---------  0/0        0 Oct 26 10:32 1991 src/db/softinc/decimal.h symbolic link to
/k.user/informix/incl/decimal.h
rw-rw-r-- 201/405     622 Oct  4 12:23 1991 src/db/softinc/dload.c.dep
---------  0/0        0 Oct 26 10:32 1991 src/db/softinc/geo.h symbolic link to
/user/project/vpi/src/include/geo.h
rw-rw-r-- 201/405     648 Oct  4 12:23 1991 src/db/softinc/pre_insert.c.dep
---------  0/0        0 Oct 26 10:32 1991 src/db/softinc/sqlda.h symbolic link to
/k.user/informix/incl/sqlda.h
---------  0/0        0 Oct 26 10:32 1991 src/db/softinc/sqlhdr.h symbolic link to
/k.user/informix/incl/sqlhdr.h
---------  0/0        0 Oct 26 10:32 1991 src/db/softinc/vpi.h symbolic link to
/user/project/vpi/src/include/vpi.h
rwxrwxr-x 201/405 dir     Oct 26 10:34 1991 src/db/user_menu.dbs/
rw-rw-r-- 201/405    5049 Oct  4 12:26 1991 src/db/user_menu.dbs/README
rw-rw---- 201/405       0 Oct  4 12:26 1991 src/db/user_menu.dbs/syscolauth.dat
rw-rw---- 201/405    4096 Oct  4 12:26 1991 src/db/user_menu.dbs/syscolauth.idx
rw-rw---- 201/405    2048 Oct  4 12:26 1991 src/db/user_menu.dbs/syscolumns.dat
rw-rw---- 201/405    3072 Oct  4 12:26 1991 src/db/user_menu.dbs/syscolumns.idx
rw-rw---- 201/405       0 Oct  4 12:26 1991 src/db/user_menu.dbs/sysdepend.dat
rw-rw---- 201/405    4096 Oct  4 12:26 1991 src/db/user_menu.dbs/sysdepend.idx
rw-rw---- 201/405    1024 Oct  4 12:26 1991 src/db/user_menu.dbs/sysindexes.dat
rw-rw---- 201/405    4096 Oct  4 12:26 1991 src/db/user_menu.dbs/sysindexes.idx
rw-rw---- 201/405    1024 Oct  4 12:26 1991 src/db/user_menu.dbs/sysmenu100.dat
rw-rw---- 201/405    3072 Oct  4 12:26 1991 src/db/user_menu.dbs/sysmenu100.idx
rw-rw---- 201/405   11264 Oct  4 12:26 1991 src/db/user_menu.dbs/sysmenu101.dat
rw-rw---- 201/405    4096 Oct  4 12:26 1991 src/db/user_menu.dbs/sysmenu101.idx
rw-rw---- 201/405       0 Oct  4 12:26 1991 src/db/user_menu.dbs/syssynonym.dat
rw-rw---- 201/405    4096 Oct  4 12:26 1991 src/db/user_menu.dbs/syssynonym.idx
rw-rw---- 201/405    1024 Oct  4 12:26 1991 src/db/user_menu.dbs/systabauth.dat
rw-rw---- 201/405    4096 Oct  4 12:26 1991 src/db/user_menu.dbs/systabauth.idx
rw-rw---- 201/405    2048 Oct  4 12:26 1991 src/db/user_menu.dbs/systables.dat
rw-rw---- 201/405    4096 Oct  4 12:26 1991 src/db/user_menu.dbs/systables.idx
```

```
rw-rw---- 201/405     1024 Oct  4 12:26 1991 src/db/user_menu.dbs/sysusers.dat
rw-rw---- 201/405     3072 Oct  4 12:26 1991 src/db/user_menu.dbs/sysusers.idx
rw-rw---- 201/405        0 Oct  4 12:26 1991 src/db/user_menu.dbs/sysviews.dat
rw-rw---- 201/405     3072 Oct  4 12:26 1991 src/db/user_menu.dbs/sysviews.idx
rwxrwxr-x 140/405 dir     Oct 26 10:34 1991 src/db_access/
rw-rw-r-- 140/405     3067 Oct  7 14:28 1991 src/db_access/B.per
rw-rw-r-- 140/405     1115 Sep 11 23:13 1991 src/db_access/CU.per
rw-rw-r-- 140/405     5189 Sep 12 16:37 1991 src/db_access/CUB.per
rw-rw-r-- 140/405     7966 Sep 12 16:38 1991 src/db_access/D.per
rw-rw-r-- 140/405     5060 Sep 12 16:39 1991 src/db_access/DB.per
rw-rw-r-- 140/405     3912 Sep 12 16:40 1991 src/db_access/EA.per
rw-rw-r-- 140/405     2671 Sep 12 17:25 1991 src/db_access/EP.per
rw-rw-r-- 140/405     5051 Sep 12 18:03 1991 src/db_access/ER.per
rw-rw-r-- 140/405     3666 Sep 12 18:04 1991 src/db_access/F.per
rw-rw-r-- 140/405     5309 Sep 12 18:04 1991 src/db_access/H.per
rw-rw-r-- 140/405     5558 Sep 12 22:36 1991 src/db_access/MMO.per
rw-rw-r-- 140/405     5522 Sep 12 22:36 1991 src/db_access/MRB.per
rw-rw-r-- 140/405     3669 Sep 12 22:37 1991 src/db_access/OML.per
rw-rw-r-- 140/405     4445 Sep 11 23:17 1991 src/db_access/PA.per
rw-rw-r-- 140/405     3577 Sep 12 22:38 1991 src/db_access/PC.per
rw-rw-r-- 140/405     6624 Sep 12 22:38 1991 src/db_access/PF.per
rw-rw-r-- 140/405     5932 Sep 12 22:39 1991 src/db_access/PG.per
rw-rw-r-- 140/405     7170 Sep 12 22:41 1991 src/db_access/PI.per
rw-rw-r-- 140/405    12087 Sep 12 22:43 1991 src/db_access/PL.per
rw-rw-r-- 140/405     7078 Sep 12 22:44 1991 src/db_access/PM.per
rw-rw-r-- 140/405     2263 Sep 12 22:44 1991 src/db_access/PS.per
rw-rw-r-- 140/405     1445 Sep 12 22:45 1991 src/db_access/RAL.per
rw-rw-r-- 140/405     5923 Sep 12 22:46 1991 src/db_access/SPB.per
rw-rw-r-- 140/405     5926 Sep 12 22:47 1991 src/db_access/TB.per
rw-rw-r-- 140/405     6534 Sep 12 22:48 1991 src/db_access/UFB.per
rw-rw-r-- 140/405     9966 Sep 12 22:56 1991 src/db_access/UR.per
rw-rw-r-- 140/405     3108 Sep 12 22:49 1991 src/db_access/WF.per
rwxrwxr-x 140/405       27 Sep  9 19:23 1991 src/db_access/informix
rw-rw-r-- 140/405     8382 Sep 12 14:04 1991 src/db_access/per.to_desc.awk
rw-rw-r-- 140/405    17217 Sep 12 17:57 1991 src/db_access/tmptmp
rwxrwxr-x 140/405 dir     Oct 26 10:34 1991 src/db_del/
rw-rw-r-- 140/405    25047 Oct  1 11:23 1991 src/db_del/TBL_DATA.sql
rw-rw-r-- 140/405     1437 Sep 11 14:12 1991 src/db_del/sql.to_desc.awk
rwxrwxrwx 140/405 dir     Oct 26 10:34 1991 src/db_load/
lrwxrwxrwx   0/0        0 Oct 26 10:34 1991 src/db_load/ARINC.data symbolic link to
/user/project/ades/data/arinc/ARINC.data
rw-rw-r-- 140/405      383 Sep 12 12:57 1991 src/db_load/ARINC.spec
rw-rw-r-- 140/405      733 Sep 11 08:12 1991 src/db_load/D.fld
rw-rw-r-- 140/405      412 Sep 11 08:12 1991 src/db_load/DB.fld
rw-rw-r-- 140/405      355 Sep 11 08:12 1991 src/db_load/EA.fld
rw-rw-r-- 140/405      219 Sep 11 08:12 1991 src/db_load/EP.fld
rw-rw-r-- 140/405       80 Sep 11 08:12 1991 src/db_load/ER.fld
rw-rw-r-- 140/405      310 Sep 11 08:12 1991 src/db_load/ERL.fld
rw-rw-r-- 140/405      124 Sep 11 08:12 1991 src/db_load/ERS.fld
rw-rw-r-- 140/405     2431 Aug 11 18:36 1991 src/db_load/Makefile
rw-rw-r-- 140/405      391 Sep 11 08:12 1991 src/db_load/PA.fld
rw-rw-r-- 140/405      394 Sep 11 08:12 1991 src/db_load/PC.fld
rw-rw-r-- 140/405      458 Sep 11 08:13 1991 src/db_load/PF.fld
```

```
rw-rw-r-- 140/405     393 Sep 11 08:12 1991 src/db_load/PFS.fld
rw-rw-r-- 140/405     465 Sep 11 08:13 1991 src/db_load/PG.fld
rw-rw-r-- 140/405     725 Sep 11 08:13 1991 src/db_load/PI.fld
rw-rw-r-- 140/405     841 Sep 11 08:13 1991 src/db_load/PL.fld
rw-rw-r-- 140/405     796 Sep 11 08:13 1991 src/db_load/PM.fld
rw-rw-r-- 140/405      93 Sep 11 08:13 1991 src/db_load/PS.fld
rw-rw-r-- 140/405      70 Sep 11 08:13 1991 src/db_load/PSL.fld
rw-rw-r-- 140/405     235 Sep 11 08:13 1991 src/db_load/UF.fld
rw-rw-r-- 140/405     478 Sep 11 08:13 1991 src/db_load/UFB.fld
rw-rw-r-- 140/405     238 Sep 11 08:13 1991 src/db_load/UR.fld
rw-rw-r-- 140/405     443 Sep 11 08:13 1991 src/db_load/URB.fld
rw-rw-r-- 140/405     256 Sep 11 08:13 1991 src/db_load/URT.fld
rw-rw-r-- 140/405    4689 Sep 11 08:18 1991 src/db_load/comp.h
rw-rw-r-- 140/405   47046 Sep 12 04:37 1991 src/db_load/comp_flds.c
rw-rw-r-- 140/405    3063 Sep 11 08:18 1991 src/db_load/conversion.h
rw-rw-r-- 140/405   30742 Sep 12 02:18 1991 src/db_load/dbload.ec
rw-rw-r-- 201/405   10512 Oct  4 13:17 1991 src/db_load/pre_insert.c
rw-rw-rw- 140/405    9068 Sep 12 04:29 1991 src/db_load/tools.c
rwxrwxr-x 201/405 dir     Oct 26 10:34 1991 src/db_menu/
rw-rw-r-- 201/405    5049 Mar  6 11:11 1991 src/db_menu/README
rwxrwxr-x 201/405 dir     Oct 26 10:34 1991 src/db_menu/user_menu.dbs/
rw-rw-r-- 201/405    5049 Sep 12 10:57 1991 src/db_menu/user_menu.dbs/README
rw-rw---- 201/405       0 Mar  6 11:10 1991 src/db_menu/user_menu.dbs/syscolauth.dat
rw-rw---- 201/405    4096 Sep 12 10:57 1991 src/db_menu/user_menu.dbs/syscolauth.idx
rw-rw---- 201/405    2048 Sep 12 10:57 1991 src/db_menu/user_menu.dbs/syscolumns.dat
rw-rw---- 201/405    3072 Sep 12 10:57 1991 src/db_menu/user_menu.dbs/syscolumns.idx
rw-rw---- 201/405       0 Mar  6 11:10 1991 src/db_menu/user_menu.dbs/sysdepend.dat
rw-rw---- 201/405    4096 Sep 12 10:57 1991 src/db_menu/user_menu.dbs/sysdepend.idx
rw-rw---- 201/405    1024 Sep 12 10:57 1991 src/db_menu/user_menu.dbs/sysindexes.dat
rw-rw---- 201/405    4096 Sep 12 10:57 1991 src/db_menu/user_menu.dbs/sysindexes.idx
rw-rw---- 201/405    1024 Sep 12 10:57 1991 src/db_menu/user_menu.dbs/sysmenu100.dat
rw-rw---- 201/405    3072 Sep 12 10:57 1991 src/db_menu/user_menu.dbs/sysmenu100.idx
rw-rw---- 201/405   11264 Sep 12 10:57 1991 src/db_menu/user_menu.dbs/sysmenu101.dat
rw-rw---- 201/405    4096 Sep 12 10:57 1991 src/db_menu/user_menu.dbs/sysmenu101.idx
rw-rw---- 201/405       0 Mar  6 11:11 1991 src/db_menu/user_menu.dbs/syssynonym.dat
rw-rw---- 201/405    4096 Sep 12 10:57 1991 src/db_menu/user_menu.dbs/syssynonym.idx
rw-rw---- 201/405    1024 Sep 12 10:57 1991 src/db_menu/user_menu.dbs/systabauth.dat
rw-rw---- 201/405    4096 Sep 12 10:57 1991 src/db_menu/user_menu.dbs/systabauth.idx
rw-rw---- 201/405    2048 Sep 12 10:57 1991 src/db_menu/user_menu.dbs/systables.dat
rw-rw---- 201/405    4096 Sep 12 10:57 1991 src/db_menu/user_menu.dbs/systables.idx
rw-rw---- 201/405    1024 Sep 12 10:57 1991 src/db_menu/user_menu.dbs/sysusers.dat
rw-rw---- 201/405    3072 Sep 12 10:57 1991 src/db_menu/user_menu.dbs/sysusers.idx
rw-rw---- 201/405       0 Mar  6 11:11 1991 src/db_menu/user_menu.dbs/sysviews.dat
rw-rw---- 201/405    3072 Sep 12 10:57 1991 src/db_menu/user_menu.dbs/sysviews.idx
rwxrwxr-x 201/405 dir     Oct 26 10:34 1991 src/db_output/
rw-rw-r-- 140/405    3130 Sep 11 09:08 1991 src/db_output/D.ace
rw-rw-r-- 140/405    2073 Sep 11 09:08 1991 src/db_output/DB.ace
rw-rw-r-- 140/405    2308 Sep 11 09:08 1991 src/db_output/EA.ace
rw-rw-r-- 140/405    1105 Sep 11 09:08 1991 src/db_output/EP.ace
rw-rw-r-- 140/405    2293 Sep 11 09:08 1991 src/db_output/ERL.ace
rw-rw-r-- 140/405    1469 Sep 11 09:08 1991 src/db_output/PA.ace
rw-rw-r-- 140/405    2358 Sep 11 09:08 1991 src/db_output/PC.ace
rw-rw-r-- 140/405    2920 Sep 11 09:08 1991 src/db_output/PFS.ace
```

```
rw-rw-r-- 140/405    1793 Sep 11 09:08 1991 src/db_output/PG.ace
rw-rw-r-- 140/405    2177 Sep 11 09:08 1991 src/db_output/PI.ace
rw-rw-r-- 140/405    2397 Sep 11 09:08 1991 src/db_output/PL.ace
rw-rw-r-- 140/405    2537 Sep 11 09:08 1991 src/db_output/PM.ace
rw-rw-r-- 140/405    1511 Sep 11 09:08 1991 src/db_output/PS.ace
rw-rw-r-- 140/405    2309 Sep 11 09:08 1991 src/db_output/UFB.ace
rw-rw-r-- 140/405    2861 Sep 11 09:08 1991 src/db_output/URB.ace
rw-rw-r-- 140/405     590 Sep 11 09:08 1991 src/db_output/URT.ace
r--r--r-- 201/405    1538 Mar  6 11:11 1991 src/db_output/unload.ec
rwxrwxr-x 201/405 dir     Oct 26 10:34 1991 src/db_update/
rw-rw-r-- 201/405    2136 Mar  6 14:02 1991 src/db_update/Makefile
rwxr-xr-x 201/405     500 Mar  6 14:02 1991 src/db_update/esqlcc
rw-rw-r-- 201/405      56 Mar  6 14:02 1991 src/db_update/input.dat
rwxrwxr-x 201/405      55 Mar  6 14:02 1991 src/db_update/run
rw-rw-r-- 201/405    9468 Mar  6 14:02 1991 src/db_update/write.ec
rwxrwxr-x 201/405 dir     Oct 26 10:32 1991 src/fpd/
r--r--r-- 201/405    4552 Oct  7 03:30 1991 src/fpd/Makefile
rw-rw-r-- 140/405    2838 Aug 19 09:55 1991 src/fpd/Makefile.OLD
rw-rw-r-- 201/405   33368 Oct  7 03:41 1991 src/fpd/Makefile.d
rwxrwxr-x 201/405 dir     Oct 26 10:32 1991 src/fpd/RCS/
r--r--r-- 170/405     259 Jun 19 16:23 1991 src/fpd/RCS/,v
r--r--r-- 170/405   12482 Sep 18 16:39 1991 src/fpd/RCS/Makefile,v
r--r--r-- 170/405    6412 Aug 16 10:07 1991 src/fpd/RCS/alert_hdlr.c+ +,v
r--r--r-- 170/405    9912 Aug 16 10:05 1991 src/fpd/RCS/alert_hdlr.h+ +,v
r--r--r-- 170/405   13909 Sep 18 16:20 1991 src/fpd/RCS/exec_handlers.c+ +,v
r--r--r-- 170/405    8340 Aug 16 10:48 1991 src/fpd/RCS/execute_hdlr.c+ +,v
r--r--r-- 170/405    6103 Aug 16 10:46 1991 src/fpd/RCS/execute_hdlr.h+ +,v
r--r--r-- 170/405    4931 Aug 16 10:53 1991 src/fpd/RCS/execute_hdlr.h,v
r--r--r-- 170/405   13539 Sep 10 15:03 1991 src/fpd/RCS/expert.c+ +,v
r--r--r-- 170/405   12415 Sep 10 15:03 1991 src/fpd/RCS/expert.h+ +,v
r--r--r-- 170/405   10429 Sep 19 13:00 1991 src/fpd/RCS/fpd_err.txt,v
r--r--r-- 170/405   14105 Sep 18 16:46 1991 src/fpd/RCS/fpd_param.c+ +,v
r--r--r-- 170/405    9972 Sep 18 16:47 1991 src/fpd/RCS/fpd_param.h+ +,v
r--r--r-- 201/405   13328 Aug 12 12:20 1991 src/fpd/RCS/fpd_req_stim.h+ +,v
r--r--r-- 170/405    8539 Aug 14 15:51 1991 src/fpd/RCS/fpd_req_tbl.c+ +,v
r--r--r-- 170/405    8516 Aug 14 15:48 1991 src/fpd/RCS/fpd_req_tbl.h+ +,v
r--r--r-- 170/405   14700 Aug 15 13:50 1991 src/fpd/RCS/fpd_request.c+ +,v
r--r--r-- 170/405    8190 Aug 15 11:59 1991 src/fpd/RCS/fpd_request.h+ +,v
r--r--r-- 170/405    5185 Sep 18 16:29 1991 src/fpd/RCS/knb_list.c+ +,v
r--r--r-- 170/405    5960 Sep 18 16:27 1991 src/fpd/RCS/knb_list.h+ +,v
r--r--r-- 170/405    6921 Aug 16 11:43 1991 src/fpd/RCS/nexpert_error.h+ +,v
r--r--r-- 170/405    7631 Aug 15 10:20 1991 src/fpd/RCS/notify_hdlr.c+ +,v
r--r--r-- 170/405    6081 Aug 15 10:19 1991 src/fpd/RCS/notify_hdlr.h+ +,v
r--r--r-- 170/405   19029 Oct  2 12:22 1991 src/fpd/RCS/nx_atom.c+ +,v
r--r--r-- 170/405   13901 Oct  2 12:22 1991 src/fpd/RCS/nx_atom.h+ +,v
r--r--r-- 170/405   21768 Oct  2 15:53 1991 src/fpd/RCS/nx_datum.c+ +,v
r--r--r-- 170/405   12300 Oct  2 15:53 1991 src/fpd/RCS/nx_datum.h+ +,v
r--r--r-- 170/405   13218 Jul  2 12:19 1991 src/fpd/RCS/nx_hypo.c+ +,v
r--r--r-- 170/405   10172 Aug 12 12:23 1991 src/fpd/RCS/nx_hypo.h+ +,v
r--r--r-- 170/405   21346 Jul 12 12:16 1991 src/fpd/RCS/nx_rule.c+ +,v
r--r--r-- 170/405    9922 Aug 12 12:34 1991 src/fpd/RCS/nx_rule.h+ +,v
r--r--r-- 170/405   11117 Aug 12 12:23 1991 src/fpd/RCS/nx_stimulus.h+ +,v
r--r--r-- 170/405   11237 Aug 16 10:27 1991 src/fpd/RCS/polling_hdlr.c+ +,v
```

```
r--r--r-- 170/405   9033 Aug 16 10:25 1991 src/fpd/RCS/polling_hdlr.h+ +,v
r--r--r-- 170/405  15751 Aug 15 10:24 1991 src/fpd/RCS/question_hdlr.c+ +,v
r--r--r-- 170/405  12056 Aug 15 10:22 1991 src/fpd/RCS/question_hdlr.h+ +,v
r--r--r-- 170/405   7686 Jul 31 14:08 1991 src/fpd/RCS/set_data_hdlr.c+ +,v
r--r--r-- 170/405   8772 Aug 12 12:35 1991 src/fpd/RCS/set_data_hdlr.h+ +,v
r--r--r-- 201/405   6224 Oct  7 03:39 1991 src/fpd/alert_hdlr.c+ +
r--r--r-- 201/405   9594 Oct  7 03:39 1991 src/fpd/alert_hdlr.h+ +
r--r--r-- 201/405  11053 Oct  7 03:39 1991 src/fpd/exec_handlers.c+ +
r--r--r-- 201/405   8051 Oct  7 03:39 1991 src/fpd/execute_hdlr.c+ +
r--r--r-- 201/405   4559 Oct  7 03:39 1991 src/fpd/execute_hdlr.h
r--r--r-- 201/405   5858 Oct  7 03:39 1991 src/fpd/execute_hdlr.h+ +
r--r--r-- 201/405  13217 Oct  7 03:39 1991 src/fpd/expert.c+ +
r--r--r-- 201/405  12020 Oct  7 03:39 1991 src/fpd/expert.h+ +
r--r--r-- 201/405   5976 Oct  7 03:39 1991 src/fpd/fpd_err.h+ +
r--r--r-- 201/405   3003 Oct  7 03:39 1991 src/fpd/fpd_err.txt
r--r--r-- 201/405  13882 Oct  7 03:39 1991 src/fpd/fpd_param.c+ +
r--r--r-- 201/405   9652 Oct  7 03:39 1991 src/fpd/fpd_param.h+ +
r--r--r-- 201/405  12635 Oct  7 03:39 1991 src/fpd/fpd_req_stim.h+ +
r--r--r-- 201/405   7414 Oct  7 03:39 1991 src/fpd/fpd_req_tbl.c+ +
r--r--r-- 201/405   7448 Oct  7 03:39 1991 src/fpd/fpd_req_tbl.h+ +
r--r--r-- 201/405  12209 Oct  7 03:39 1991 src/fpd/fpd_request.c+ +
r--r--r-- 201/405   7521 Oct  7 03:39 1991 src/fpd/fpd_request.h+ +
r--r--r-- 201/405   4974 Oct  7 03:39 1991 src/fpd/knb_list.c+ +
r--r--r-- 201/405   5735 Oct  7 03:40 1991 src/fpd/knb_list.h+ +
r--r--r-- 201/405   6486 Oct  7 03:40 1991 src/fpd/nexpert_error.h+ +
r--r--r-- 201/405   7491 Oct  7 03:39 1991 src/fpd/notify_hdlr.c+ +
r--r--r-- 201/405   7772 Oct  7 03:40 1991 src/fpd/notify_hdlr.h+ +
r--r--r-- 201/405  17233 Oct  7 03:39 1991 src/fpd/nx_atom.c+ +
r--r--r-- 201/405  11170 Oct  7 03:40 1991 src/fpd/nx_atom.h+ +
r--r--r-- 201/405  18837 Oct  7 03:39 1991 src/fpd/nx_datum.c+ +
r--r--r-- 201/405   9351 Oct  7 03:40 1991 src/fpd/nx_datum.h+ +
r--r--r-- 201/405  13019 Oct  7 03:39 1991 src/fpd/nx_hypo.c+ +
r--r--r-- 201/405   9494 Oct  7 03:40 1991 src/fpd/nx_hypo.h+ +
r--r--r-- 201/405  21132 Oct  7 03:39 1991 src/fpd/nx_rule.c+ +
r--r--r-- 201/405   9239 Oct  7 03:40 1991 src/fpd/nx_rule.h+ +
r--r--r-- 201/405  10439 Oct  7 03:40 1991 src/fpd/nx_stimulus.h+ +
r--r--r-- 201/405  10893 Oct  7 03:39 1991 src/fpd/polling_hdlr.c+ +
r--r--r-- 201/405   8712 Oct  7 03:40 1991 src/fpd/polling_hdlr.h+ +
r--r--r-- 201/405  14727 Oct  7 03:39 1991 src/fpd/question_hdlr.c+ +
r--r--r-- 201/405  10922 Oct  7 03:40 1991 src/fpd/question_hdlr.h+ +
r--r--r-- 201/405   7536 Oct  7 03:39 1991 src/fpd/set_data_hdlr.c+ +
r--r--r-- 201/405   8142 Oct  7 03:40 1991 src/fpd/set_data_hdlr.h+ +
rwxrwxr-x 201/405 dir     Oct 26 10:32 1991 src/fpd_db/
rwxrwxr-x 201/405 dir     Aug  1 17:03 1990 src/fpd_db/RCS/
rwxrwxr-x 201/405 dir     Oct 26 10:32 1991 src/grph/
rwxrwxr-x 201/405 dir     Mar 28 15:09 1991 src/grph/RCS/
rwxrwxr-x 201/405 dir     Oct 26 10:34 1991 src/include/
rw-rw-r-- 201/405      74 Aug 19 09:06 1991 src/include/.RCSt1a19317
r--r--r-- 201/405    2451 Oct  7 03:30 1991 src/include/Makefile
rw-r--r-- 140/405    1123 May 13 10:56 1991 src/include/Makefile.OLD
rwxrwxr-x 201/405 dir     Oct 26 10:34 1991 src/include/RCS/
r--r--r-- 118/405   11420 Aug 19 13:10 1991 src/include/RCS/Makefile,v
r--r--r-- 201/405    6267 Feb  5 15:07 1991 src/include/RCS/ades.h+ +,v
```

```
r--r--r-- 140/405    1696 Aug  9 16:19 1991 src/include/RCS/data_db_inc.h+ +,v
r--r--r-- 140/405    2948 Aug  9 16:18 1991 src/include/RCS/data_domain_inc.h+ +,v
r--r--r-- 140/405    1872 Sep  8 11:00 1991 src/include/RCS/db_ina_inc.h,v
r--r--r-- 140/405    2833 Aug  9 16:19 1991 src/include/RCS/informix_st.h,v
r--r--r-- 170/405   34126 Aug  9 11:38 1991 src/include/RCS/nxpdef.h+ +,v
r--r--r-- 201/405    2801 May 13 03:30 1991 src/include/ades.h+ +
r--r--r-- 201/405    1415 Aug 11 14:46 1991 src/include/data_db_inc.h+ +
r--r--r-- 201/405    2049 Aug 10 19:20 1991 src/include/data_domain_inc.h+ +
r--r--r-- 201/405    1578 Sep  8 15:50 1991 src/include/db_ina_inc.h
r--r--r-- 201/405    2646 Aug 11 14:46 1991 src/include/informix_st.h
r--r--r-- 201/405   33352 Aug  9 15:01 1991 src/include/nxpdef.h+ +
rwxrwxr-x 201/405 dir     Oct 26 10:34 1991 src/kb/
lrwxrwxrwx   0/0        0 Oct 26 10:34 1991 src/kb/$$$nexpert.dat symbolic link to
/user/project/ades/nxp/$$$nexpert.dat
rwxrwxr-x 201/405 dir     Oct 26 10:34 1991 src/kb/RCS/
r--r--r-- 170/405   97983 Sep 11 16:30 1991 src/kb/RCS/awy_gen.tkb,v
r--r--r-- 170/405   96814 Sep 11 16:30 1991 src/kb/awy_gen.tkb
rw-rw-r-- 140/405   95347 Jun  3 15:23 1991 src/kb/elp_awy_gen.tkb
lrwxrwxrwx   0/0        0 Oct 26 10:34 1991 src/kb/nexpert.dat symbolic link to
/user/project/ades/nxp/nexpert.dat
rwxrwxr-x 201/405 dir     Oct 26 10:32 1991 src/mms/
r--r--r-- 201/405    2565 Oct  7 03:30 1991 src/mms/Makefile
rw-rw-r-- 201/405       0 Oct  7 03:48 1991 src/mms/Makefile.d
rwxrwxr-x 201/405 dir     Oct 26 10:32 1991 src/mms/RCS/
r--r--r-- 140/405    4821 Apr 12 18:03 1991 src/mms/RCS/Makefile,v
r--r--r-- 201/405    6711 Dec 13 12:51 1990 src/mms/RCS/ades_envars.c+ +,v
r--r--r-- 201/405   35622 Dec 21 12:44 1990 src/mms/RCS/attributes.c+ +,v
r--r--r-- 201/405   67297 Dec 13 13:08 1990 src/mms/RCS/colors.c+ +,v
r--r--r-- 201/405   23325 Dec 13 13:03 1990 src/mms/RCS/fonts.c+ +,v
r--r--r-- 201/405   95545 Dec 13 13:06 1990 src/mms/RCS/icons.c+ +,v
r--r--r-- 201/405   46619 Dec 13 13:03 1990 src/mms/RCS/lstyles.c+ +,v
r--r--r-- 118/405    1464 Mar 28 14:50 1991 src/mms/RCS/mms_err.txt,v
r--r--r-- 201/405   40442 Dec 13 13:04 1990 src/mms/RCS/textures.c+ +,v
r--r--r-- 201/405    3174 Oct  7 03:46 1991 src/mms/mms_err.h+ +
r--r--r-- 201/405    1278 Oct  7 03:46 1991 src/mms/mms_err.txt
rwxrwxr-x 201/405 dir     Oct 26 10:34 1991 src/nxp/
rw-rw-r-- 140/405  476076 Jun  5 11:32 1991 src/nxp/$$$nexpert.dat
rwxrwxr-x 201/405 dir     Oct 26 10:34 1991 src/nxp/RCS/
r--r--r-- 140/405  476931 Jun  5 11:40 1991 src/nxp/RCS/nexpert.dat,v
r--r--r-- 140/405  476076 Jun  5 11:40 1991 src/nxp/nexpert.dat
rwxrwxr-x 201/405 dir     Oct 26 10:34 1991 src/temp_mms/
r--r--r-- 201/405    2949 Oct  7 03:30 1991 src/temp_mms/Makefile
rw-rw-r-- 201/405    9432 Oct  7 03:46 1991 src/temp_mms/Makefile.d
rwxrwxr-x 201/405 dir     Oct 26 10:34 1991 src/temp_mms/RCS/
r--r--r-- 129/405    3775 Apr 17 11:39 1991 src/temp_mms/RCS/Makefile,v
r--r--r--   0/0      6711 Apr 12 17:41 1991 src/temp_mms/RCS/ades_envars.c+ +,v
r--r--r--   0/0      2603 Apr 12 17:42 1991 src/temp_mms/RCS/ades_envars.h+ +,v
r--r--r--   0/0     35622 Apr 12 17:27 1991 src/temp_mms/RCS/attributes.c+ +,v
r--r--r--   0/0      3481 Apr 12 17:29 1991 src/temp_mms/RCS/attributes.h+ +,v
r--r--r--   0/0     67297 Apr 12 17:27 1991 src/temp_mms/RCS/colors.c+ +,v
r--r--r--   0/0      2623 Apr 12 17:29 1991 src/temp_mms/RCS/colors.h+ +,v
r--r--r--   0/0     23325 Apr 12 17:27 1991 src/temp_mms/RCS/fonts.c+ +,v
r--r--r--   0/0      2336 Apr 12 17:29 1991 src/temp_mms/RCS/fonts.h+ +,v
```

```
r--r--r-- 129/405   95653 Jul 31 15:20 1991 src/temp_mms/RCS/icons.c+ +,v
r--r--r--   0/0     19021 Apr 12 17:29 1991 src/temp_mms/RCS/icons.h+ +,v
r--r--r--   0/0     46819 Apr 12 17:27 1991 src/temp_mms/RCS/fstyles.c+ +,v
r--r--r--   0/0      2381 Apr 12 17:29 1991 src/temp_mms/RCS/fstyles.h+ +,v
r--r--r--   0/0     40442 Apr 12 17:27 1991 src/temp_mms/RCS/textures.c+ +,v
r--r--r--   0/0      2391 Apr 12 17:29 1991 src/temp_mms/RCS/textures.h+ +,v
r--r--r-- 201/405    5829 Oct  7 03:46 1991 src/temp_mms/aides_envars.c+ +
r--r--r-- 201/405    2301 Oct  7 03:46 1991 src/temp_mms/aides_envars.h+ +
r--r--r-- 201/405   33302 Oct  7 03:46 1991 src/temp_mms/attributes.c+ +
r--r--r-- 201/405    2938 Oct  7 03:46 1991 src/temp_mms/attributes.h+ +
r--r--r-- 201/405   62728 Oct  7 03:46 1991 src/temp_mms/colors.c+ +
r--r--r-- 201/405    2439 Oct  7 03:46 1991 src/temp_mms/colors.h+ +
r--r--r-- 201/405   23096 Oct  7 03:46 1991 src/temp_mms/fonts.c+ +
r--r--r-- 201/405    2201 Oct  7 03:46 1991 src/temp_mms/fonts.h+ +
r--r--r-- 201/405   90876 Oct  7 03:46 1991 src/temp_mms/icons.c+ +
r--r--r-- 201/405   14053 Oct  7 03:46 1991 src/temp_mms/icons.h+ +
r--r--r-- 201/405   46368 Oct  7 03:46 1991 src/temp_mms/fstyles.c+ +
r--r--r-- 201/405    2246 Oct  7 03:46 1991 src/temp_mms/fstyles.h+ +
r--r--r-- 201/405   40185 Oct  7 03:46 1991 src/temp_mms/textures.c+ +
r--r--r-- 201/405    2256 Oct  7 03:46 1991 src/temp_mms/textures.h+ +
rwxrwxr-x 201/405 dir     Oct 26 10:34 1991 src/test/
rw-rw-rw- 170/405    1713 Apr  1 16:44 1991 src/test/ ^ Acn
rw-rw-rw- 170/405    3066 Apr  8 16:25 1991 src/test/MMag_Var
r--r--r-- 201/405    2057 Feb 18 02:30 1991 src/test/Makefile
rw-rw-rw- 170/405    1871 Mar 19 10:13 1991 src/test/Mascii_geo
rw-rw-rw- 170/405    1678 Mar 22 16:12 1991 src/test/Mgeo_pos_3d
rw-rw-rw- 170/405    1668 Apr  1 16:46 1991 src/test/Mgeodtest
rwxrwxr-x 201/405 dir     Oct 26 10:34 1991 src/test/RCS/
r--r--r-- 201/405    2551 Feb  1 16:29 1991 src/test/RCS/Makefile,v
r--r--r-- 201/405    6179 Feb  1 16:16 1991 src/test/RCS/menu_hdlr.c+ +,v
r--r--r-- 201/405    5911 Feb 18 02:35 1991 src/test/menu_hdlr.c+ +
rw-rw-r-- 170/405    3585 Mar 19 10:08 1991 src/test/test_ascii_geo.c+ +
rw-rw-r-- 170/405    1309 Mar 22 16:10 1991 src/test/test_geo_pos_3d.c+ +
rw-rw-r-- 170/405    3646 Apr  1 16:43 1991 src/test/test_geodesic.c+ +
rw-rw-r-- 170/405    2196 Apr  8 14:08 1991 src/test/test_mag_var.c+ +
rw-rw-r-- 140/405       0 Sep 12 13:29 1991 src/tmptemp
rwxrwxr-x 201/405 dir     Oct 26 10:34 1991 src/util_aides/
r--r--r-- 201/405    2550 Oct  7 03:30 1991 src/util_aides/Makefile
rw-rw-r-- 201/405    7074 Oct  7 03:31 1991 src/util_aides/Makefile.d
rwxrwxr-x 201/405 dir     Oct 26 10:34 1991 src/util_aides/RCS/
r--r--r-- 140/405   19211 Sep  9 08:04 1991 src/util_aides/RCS/Makefile,v
r--r--r-- 140/405    9269 Aug  1 09:07 1991 src/util_aides/RCS/aircraft.c+ +,v
r--r--r-- 140/405    7085 Aug  1 09:07 1991 src/util_aides/RCS/aircraft.h+ +,v
r--r--r--   0/0     6708 Apr 15 17:28 1991 src/util_aides/RCS/aircraft_cat.c+ +,v
r--r--r--   0/0     7092 Apr 15 17:28 1991 src/util_aides/RCS/aircraft_cat.h+ +,v
r--r--r-- 118/405   19667 Sep 20 17:58 1991 src/util_aides/RCS/err_aides.c+ +,v
r--r--r-- 118/405   12246 Sep 20 17:58 1991 src/util_aides/RCS/err_aides.h+ +,v
r--r--r-- 118/405    3352 Sep 20 18:01 1991 src/util_aides/RCS/err_aides.h,v
r--r--r--   0/0     2583 Apr 15 16:19 1991 src/util_aides/RCS/util_aides.h+ +,v
r--r--r-- 118/405    3027 Aug 15 17:16 1991 src/util_aides/RCS/util_aides_err.txt,v
r--r--r-- 201/405    7730 Oct  7 03:30 1991 src/util_aides/aircraft.c+ +
r--r--r-- 201/405    6325 Oct  7 03:30 1991 src/util_aides/aircraft.h+ +
r--r--r-- 201/405    6545 Oct  7 03:30 1991 src/util_aides/aircraft_cat.c+ +
```

```
r--r--r-- 201/405    6836 Oct  7 03:30 1991 src/util_ades/aircraft_cat.h+ +
r--r--r-- 201/405   11746 Oct  7 03:30 1991 src/util_ades/err_ades.c+ +
r--r--r-- 201/405    2704 Oct  7 03:30 1991 src/util_ades/err_ades.h
r--r--r-- 201/405    8171 Oct  7 03:30 1991 src/util_ades/err_ades.h+ +
r--r--r-- 201/405    2254 Oct  7 03:30 1991 src/util_ades/util_ades.h+ +
r--r--r-- 201/405    3565 Oct  7 03:30 1991 src/util_ades/util_ades_err.h+ +
r--r--r-- 201/405    1492 Oct  7 03:30 1991 src/util_ades/util_ades_err.txt
rwxrwxr-x 201/405 dir     Oct 26 10:32 1991 src/work_db/
rwxrwxr-x 201/405 dir     Aug  1 17:03 1990 src/work_db/RCS/
```